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In Memoriam

ALEXANDER GUSTAVUS BROWN, JR.
1873-1953

Editor of the Virginia Medical Monthly
1918-1933

He was a gentleman of the old school, a loyal friend, a skilled and trusted physician, a man of catholic interests and kindly spirit.

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THE OBLIGATIONS, RESPONSIBILITIES, AND THE RIGHTS OF THE PHYSICIAN*

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Medicine, as the science and art of preventing, curing, or alleviating disease is an old, an honored, and a great profession. This greatness is the accumulated essence of good which has predominated the bad through the ages. Much of this came through the high motives which have actuated the profession since the days of Hippocrates. In Babylon, two thousand years before Christ, the practice of medicine was regulated in detail by code of law and influenced by the code of medical ethics of that day. There has been so much good, as well as so many inconsistencies, in the profession of all periods that it is difficult to say in which period the profession has been greatest. It should suffice to say that a great desire to render efficient service, and a high regard for honesty and integrity have always been evidenced in the profession everywhere. Where else can one find such devotion to duty and responsibility as in the profession of medicine? In the records of no other group is there to be found so large a number of men and women who have combined intellectual preeminence with nobility of character for the training of its members for service to humanity.

The physician's obligations to medicine begin when he enters medical school and has the use of facilities, and access to the mass of information needed for his education. This debt is twenty-five hundred years or more of medical knowledge, which he receives for the asking, and absorbs through hard study, at a cost of little more than personal time and effort. When he receives his degree in medicine and begins his professional life, he is proclaimed to the world as being capable of intelligently practicing his profession, and as being worthy of public confidence. He then becomes the key factor in making modern medicine available to all people.

Because of the high standard set by his predecessors, and the high plane of medical practice maintained by them throughout the years, with the tradition of honesty and decency in private and public life and the record of devotion to service to humanity, the physician receives a great heritage from which he must sense a great challenge. If he can successfully meet this, he soon becomes a respected figure in his community and may become a leader in civic, religious and political affairs, and a great influence in moulding community thinking. He is privileged to study and to treat the ills of mankind, real and imaginary, great and small. He becomes a trusted confidant, and, at times, as close to his patient as does the minister.

The physician's debt to medicine can never be paid in full. Each one of us has received more from this, the oldest and noblest of professions, than the longest life can repay. From those who have received so much, much is expected. Even though it has been given willingly, freely, and without binding or difficult demands for repayment, we are duty bound to repay to the best of our ability, not primarily in coin, but in respect, a sense of appreciation, and in the type of service which will always honor the profession. The greater the gifts we have received, and the greater the opportunities of developing them, the greater are our privileges and obligations.

We must never lose sight of these obligations if we would save our privileges. The fulfilment of such obligations, and the privileges which they have given, demand of us great responsibility, the requirements of which only those of great integrity can fulfill. We can repay the profession in kind, and only in kind. We must show our gratitude by trying, sincerely, to balance the account. This can be done only if we strive always to better the quality of the medical services we render and to make ourselves better and more useful citizens. We owe this to our forbears in medicine. These are our obligations. They have brought many privileges which carry great responsibilities.

The responsibilities of the physician are many and demanding. It would be difficult to list them in order of their importance and too time consuming to consider all of them.

Surely, the physician's primary responsibility has always been and must continue to be, to his patients, particularly those who are suffering or in distress. He must not only give them prompt attention, but he

*Address of the President before The Medical Society of Virginia, meeting at Roanoke, October 18-21, 1953.

must give the very best his training, ability and judgment can offer toward meeting and solving their problems, immediate and remote. To them, he must give time, patience and undivided attention. He must take time to hear their stories and to explore their diagnostic and therapeutic possibilities thoroughly. He may not think it wise to tell them everything he suspects regarding their disabilities, but they are entitled to know the general nature of their troubles and their treatment. Nothing takes the place of friendly and genuine interest in the patient and his problems. Consider him as a person, as a family member, and as a member of his community. Let him know that you see under his mask, a man, a human being, who needs your care and that you will continue, to the very best of your ability, this interest and care as long as he needs it. Few physicians have ever forgotten this, or have forgotten that all else is secondary. For this reason, alone, the profession has risen to and held its high position in the hearts and esteem of the people. We must see that this is always true.

The physician must not forget his responsibility to his family and to himself. He must not only keep himself professionally proficient, but he must live in moderation and preserve his physical and mental energy just as he urges his patients to do. He owes it to his family to spend some time with them and to utilize cultural and spiritual resources offered them by wholesome recreation, reading, home life, social and spiritual activities. It is his responsibility to himself, as well as to his patients, to keep his skill at its peak. He must do this by keeping up with the newest developments in diagnosis and treatment of disease by the regular reading of medical journals and books, and by attending medical meetings and participating in post-graduate educational programs. The progressive physician never gets through with his education. There is always something new and better.

The first responsibility of a physician to other physicians is to be a good, ethical physician. He must comply with the laws and respect his and their permission to practice their profession. If he is capable, honest, decent, courageous, vigilant and a follower of the Golden Rule, his life will be the best exemplification of the ethical principles which should always guide his conduct with his fellow physicians. With them, he should contribute to medical knowledge by exchanging the knowledge they have gained by study and hard work. One of the shining examples of greatness in the profession of medicine is the spirit of sharing with others in the profession every bit of knowledge which has been found useful and beneficial. A medical discovery is for the whole world, which is now profiting by discoveries made by doctors and their co-laborers of many nations. The physician must be interested in maintaining and improving the standards of pre-medical and medical education and medical care. He must also interest himself in the welfare of the newly trained physician by guiding, helping and encouraging him always, and by trying to inculcate in him the traditions of medicine and medical ethics. He must also solicit his aid in maintaining the high standards of medicine and in making his contribution toward the improvement of the world in which we live.

Every physician should affiliate with medical societies and should join his associates in giving time and energy to the advancement of his profession. Only by active participation of all members can medical societies be kept strong, democratic and be able to do for its members what they cannot do for themselves. Progress can be made only through the efforts of strong societies in which all members work together. Where such societies are absent, or weak, there exists low standards of medical education and care. Not only are medical societies largely responsible for the high standard of medical service rendered by individual physicians, but the high opinion in which the profession is held by the public is due, in a large measure, to the whole hearted manner in which most physicians have conducted their professional lives in accordance with the accepted principles of medical ethics, as set by their medical societies. These are not laws to govern but are principles to guide to correct conduct. They were set down primarily for the good of the public, but, as a guide for the physician, they should be observed in such manner as shall merit and receive the endorsement of the community.

Doctors are human, however, and unfortunately there are a few renegades among them just as there are in all professions and in all walks of life. Just as any community of two hundred thousand must have some bad, there are a few to be found among the two hundred thousand physicians in this country who deviate from the practices which are vital to our profession. Every physican should remember that to accept by silence, where one should protest,

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makes cowards of men, and he should expose without fear or favor, incompetent or corrupt, dishonest or unethical conduct on the part of members of the profession. He should, also, support his society in seeing that these people turn from their waywardness or get out of medicine. Too, when the society adopts a policy, the physician must interpret it to his patients. Unless they understand the society's viewpoint, they cannot be expected to wholly support it. No one can do so much for improved patient-physician relationship as can the patient's own physician whose affection for and service to his patients can make them loyal supporters.

The medical profession has been careless in its responsibility to our medical schools, this, to the extent that the schools, oft-times, are found in financial distress. We must correct this by contributing to the American Medical Education Fund which was originated and is functioning for the purpose of giving the schools financial aid and helping to make them self-sustaining. This is essential if our schools are going to render the service they should and be kept from political control, which would most assuredly lower educational standards and restrict freedom of scientific research.

As students of medicine and practicing physicians, we have the same rights and duties as other citizens. We like to place emphasis on the physician as a citizen. His position in the community makes him an important figure in the civic, fraternal, social, religious and political activities about him. It is most important to himself, and to his profession, as well as to his neighbors, that he lend a helping hand and share fully in all worthwhile community activities when needed. There are also certain professional responsibilities which he owes his nation, his state and his community. Love of our country and profession imply service. We must willingly serve in the armed forces of our nation when needed. Regardless of the hardships, we must not complain when the young men and women serving the nation need our care. It is equally important that those of use who cannot serve actively in the armed forces should serve in any of the auxiliary services, and in any capacity, where needed. We should work for closer integration of civilian and military medicine. I should like to see the profession work with the military services, on a voluntary basis, in the examination of veterans for disability, also in the re-evaluation of physical disabilities for which so many veterans are pensioned. None of us wants to keep the veteran who has service connected disability from getting all the hospitalization he needs and all the pension he is entitled to. It does seem, however, that those who can pay for treatment of non-service disability should do so. It is evident, too, that many veterans are drawing full pensions while doing full time and highly remunerative work since leaving the service. The type of pensioner should have his status re-evaluated and changed, should he not need such help. The public can, by demanding such service, help us to serve them better, and we can serve our country better by voluntarily rendering such aid. It is equally as important that no needy veteran, with service connected disability, should ever need hospitalization or pension and not get it.

The physician's responsibilities to the state have greatly increased as greater progress has been made in preventive and curative medicine. He should support the many new agencies and efforts which have brought this about. He should work to extend public health coverage to all people, and should cooperate with this great branch of the profession in every way possible.

He should support the Virginia Council on Health and Medical Care in its programs for improving the facilities for caring for the ill and for improving general health conditions throughout the state. The Council's Physician Placement Program is particularly noteworthy in that it has placed so many physicians in rural areas and small towns where needed.

It is equally important that the many organizations which are working for improved health and better living conditions, by trying to prevent as well as to fight disease, should have our wholehearted and sympathetic support.

With so many people of advanced age, the problems in chronic and degenerative disease have multiplied. The physician must accept leadership in formulating plans for the care of this large and growing segment of the population. This is equally true of the crippled and handicapped of all ages.

Medical care of the indigent is always a great responsibility. In some places this is satisfactory. It should be everywhere. It is unfair to the physicians to have to shoulder all the cost of this care; yet, for the most part, they have done so without complaint. Good medical service, with free choice of the physician, should be provided for these people,

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and paid for at a reduced cost. This might be provided by the Welfare Department of the State, the Community Chest, or other like agencies by outright grants or by the purchase of pre-payment insurance for that purpose. Unless, or until, such provision has been made, no physician should ever refuse to furnish emergency medical care because of the patient's inability to pay. Our traditions, and our public relations, demand that we give some service for the privilege of being helpful to our fellow man. We must not think more of our fatigue and discomfort than about the cure of illness about us. Nor must we expect pay for every effort in behalf of the people. We should not expect full pay at anytime. This is an art and a service which must be given cheerfully and in excess of monetary gain.

The responsibility of medical care, however, is reciprocal. The patient should strive to save to pay for his medical services as he does for radios, refrigerators, television sets or for new automobiles. Fortunately, he can do this by buying voluntary health insurance. Although about 86,000,000 people carry some type of pre-payment insurance, much more extensive coverage is needed. The physician must encourage as nearly full coverage as possible.

Preventing disease and caring for the sick is not the whole job. Rehabilitation is coming into its own and must have the support of the physician in every phase. The state will have to pay for the hospitalization of many of these people, but it does seem that the profession should arrange to do most of the medical work for the privilege of intern, residency and post-graduate training. We must not let the public lose confidence in us or doubt our desire to serve humanity. This confidence can be our greatest asset, and can do much to secure our rights and increase our rewards.

All people are entitled, by nature, to certain rights. The physician's obligations and responsibilities make him jealous of his privilege to study and practice his profession in a free and untrammelled manner. He feels that the practice of medicine should never be the function of government, that it has no business in the field of medical care and should never come between the physician and his patient.

There is opposition, on the part of some, to the kind of medical care they get and the cost of it, even though this cost has not increased as have other costs. Insidious encroachment of government into medicine, with its interference in the voluntary way of medical practice, must not be met with impulsive opposition. We must be vigilant and we must combat this with soul-searching tolerance and leadership, if we are to guide the public health against those who are willing to trade the best medical care and health on earth for the uncertainties of socialism. The physician feels it his right, privilege and duty to oppose such encroachment of the freedom of his profession. In doing so, however, he must not fail to show the public that their interests come first. The physician has a right to expect considerate treatment at the hands of his patients. They should choose the physician they want, before they need him, let him know their wishes and find out about his hours and daily routine so they can go to his office when able to do so. If they cannot do this, they should call him as early in the day as possible so he can arrange his home and hospital calls to the best advantage of all concerned. They should give him reasonable time to take care of them. Too, other patients have some claim on his time. Urgent calling, when no emergency exists, may keep the physician from some friend whose need is urgent. Unless urgent, it is hardly fair to expect the family physician to never have any time off. He is mortal, too, and certainly needs time off for his meals, sleep, recreation and rest. When tired and exhausted, he cannot do his best.

It may appear, from the responsibilities cited, the physician should serve without thinking of a fee, and the average student may go into medicine because he wants to be a humanitarian, but it does not take him long to find out that he has to make a living. A good doctor wants to help as many people in his community as he can. He cannot do this if his patients do not trust his professional ability and respect his financial arrangements. No physician should aspire to become wealthy through the care of the sick. However, in order to repay the cost of his medical education, in order to maintain a modern, scientifically equipped office, and in order to discharge the proper obligations of good citizenship, the physician must charge and collect fees for his services. Too, it is a natural desire that every man should wish to marry, to have a family and set aside something for his old age. There will naturally be some variation of fees among individual physicians. They should all strive, however, to render the best service possible and to keep the charges within moderate range. They should always

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be glad to discuss fees and other costs with the patient. Probably the three chief sources of anxiety with patients are whether or not they will get well, how long it will take, and how much the cost will be. A frank discussion of all of these will be satisfying to the patient and will bring much good will to the physician.

Our obligations, we should proudly acknowledge and should strive earnestly to pay; our responsibilities, we should assume and sincerely try to fulfill; our rights, we hope to gain, deserve, and preserve. All make the physician's life active, full and useful even though hard and trying at times.

The reward is well worth the effort. It is a life filled with satisfaction of service to humanity, service that is an essential, honorable, and an honored livelihood; it is a prominent and esteemed position in society; and it is the gratitude, friendship, and prayers of many patients. Money will most likely be the recompense bestowed by the rich; friendship, reputation, increase of virtue, prayers and gratitude will be that of the poor.

Medicine knows no race, creed or color, but only the sacredness of human life. May it always be the servant of all, but the hireling of none. Greatness of the profession will remain as long as we look at the ills of man through the clear light of service and not through the colored glasses of wealth and selfishness.

I believe that no profession offers better opportunity for growth in moral and ethical stature, for contribution to the welfare of society, and for the relief of individual human suffering. I believe that no profession permits the practitioner to approach so closely the goals of kindness, loyalty, devotion and consecration as does medicine.

We are the most favored of all in the scope of human endeavor. If you find, as you must, flaws in the wide surface of the portrait that represents us, I believe them to constitute only a challenge to us to strive more diligently toward perfection. Remember, it is always the duty of the physician to help cure when possible, to relieve often, and to comfort and support always, ever bearing in mind the fact that we treat the patients, God cures them.

Transistors Reduce Hearing Aid Operational Costs 80 Per Cent.

Transistors, a new substitute for the vacuum tube in hearing aids, may save users of such devices as much as 80 per cent in operational costs, according to a report by the Council on Physical Medicine and Rehabilitation of the American Medical Association. (Oct. 3, J.A.M.A.)

This states that all-transistor hearing aids need only one battery instead of the two necessary for the operation of standard types, thus eliminating high battery replacement costs. A recent development in the electronic field, the transistor has been under study and experimentation for several years, and has been used in hearing aids only for a few months.

"The most important advantage of the transistor hearing aid that can be claimed at the present time is a significant reduction in operational costs, as much as 80 per cent and perhaps more."

At the present time it appears that no significant change will take place in the size or weight of transistor hearing aids as the battery space is filled with other components of the transistor circuit that are needed for its operation. The new type hearing aid also does not appear to have any significant improvement in amplification, in tone quality, or in fidelity over the other kinds. Although transistor hearing aids offer promise, "it is reasonable to expect that many deficiencies and shortcomings in performance will be encountered," the report pointed out. Therefore, it was recommended that purchasers of the instrument insist on a guarantee that the hearing aid will be maintained in top condition for at least one year and that all defective transistors will be replaced without cost.

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THE VIRGINIA STATE HEALTH DEPARTMENT LEGISLATIVE PROGRAM FOR THE ERADICATION OF TUBERCULOSIS

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and
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It is the conviction of the Virginia State Health Department, widely shared, that private physicians, as individuals and as groups, as general practitioners, internists and chest specialists, have most important and active professional parts to play in manning the battle stations, if an all-out state-wide objective to eliminate tuberculosis as a serious public health problem within the next decade, is to be realistically served.

A discussion, under title of "The Role of the Private Physician in a Tuberculosis Eradication Program", has been prepared by the State Health Department for your consideration; copies are available at the registration desk and at the door.

In the discussion are summarized many reasons why it is felt to be most timely for physicians as a whole to take a "New Look" at tuberculosis. A realistic analysis of the shortcomings of the past, less often medical than otherwise, and mostly correctable, added to the promise of a future brightened by fullest possible exploitation of new methods of wide-scale case-finding, newly devised surgical operations, new specific medicinal aids—all combine to invite a new optimistic outlook or approach to the whole subject of tuberculosis, *provided* medical and public interest can be engendered to a point where they will, respectively, support the enhanced professional participation, and the appropriation of additional funds needed, to provide the facilities and services required to do a job.

General practitioners and internists must be persuaded if possible to regard—we *hope* they will eagerly accept as practical and feasible—the role to which they have been assigned by the State Health Department, as king-pins in our Tuberculosis Eradication Program, given the necessary supportive services.

10,000 active cases of pulmonary tuberculosis are thought to exist in Virginia alone, most of whom await identification in a presently comparatively innocuous stage. As it becomes generally known that diagnosis of active tuberculosis no longer implies categorical need for hospital care, either for the patient's sake or to protect others, the public will be even more eager to participate *en masse* in community x-ray surveys. Many private physicians will be called upon to help meet this community problem. They can't all be "consultants."

Completion of diagnostic studies for tuberculosis is neither mysterious nor complicated when carried out according to protocol.

Repeated visits to a doctor's office may be required for months—but this is no more than is regularly accorded the prenatal case, as her due!

It is no more necessary for a general practitioner to be able to interpret a chest x-ray with any degree of finality than it is for a chest specialist to personally perform his own sputum examination if he has a certified laboratory to do it for him.

It takes less skill to do a tuberculin test or collect a gastric lavage specimen than it does to deliver a baby.

By and large, treatment of run-of-the-mill tuberculosis is simple; the real problem is treating the people who have it, their friends and relatives. The Health Department can help in these fields.

Specific drug therapy must not be looked upon as a substitute for sanatorium care, where the latter is indicated. Unless a physician is prepared, *as of now,* to treat tuberculosis *without* the newer drugs, he should not attempt to treat tuberculosis by simple resort to them.

Some general practitioners will be surprised, it is hoped all will be pleased, to learn that not only diagnosis, but treatment of the average case of pulmonary tuberculosis, *as found today,* requires no more, *if as much,* training and skill, as they must apply daily in their management of many other types of disease.

There should be no class of patients who will pay better, take less of the doctor's time, give him greater personal and professional satisfaction, than should

*Read before the annual meeting of The Medical Society of Virginia at Roanoke, October 18-21, 1953.

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the average tuberculosis patient of the next 10 years, who will appreciate *relatively* inexpensive medical supervision by his own family physician whose function it will be to make as nearly unlikely as possible his ever having to quit his job to go to a sanatorium, through effective application of appropriate treatment obtained in his own community.

May we again commend to you the more complete elaboration of these points to be found in the paper prepared by the State Health Department to which reference has previously been made.

Many of you have already read or heard of the "Study of Tuberculosis in Virginia—1952", jointly sponsored by the Virginia State Health Department and the Virginia Tuberculosis Association, conducted by a nationally recognized authority referred by the American Public Health Association. The Director of the survey was assisted by a staff of experts from the Public Health Service, and from the National Tuberculosis Association, thus assuring additional objectivity.

Remaining remarks in this paper will be addressed primarily to two groups of recommendations emanating from the aforementioned report, (1) the provision of more sanatorium beds, and (2) the setting up of Regional Chest Clinics throughout the State.

Let us consider first the recommendation for more sanatorium beds, generally conceded to be the greatest single need in our Tuberculosis Eradication Program.

This need is acute for Negroes where a perennial waiting list, constantly growing, of more than two hundred and fifty, makes necessary delays from six to nine months before admission. Former patients who "relapse" can almost never be readmitted. When one considers the comparatively rapid course of the disease in many Negroes, plus average home conditions, the situation, as viewed in the light of modern times, becomes truly intolerable.

Additional surgical and sanatorium facilities are needed for white patients, as well.

The "Tuberculosis Study—1952" estimated a possible eventual need for 1400 additional sanatorium beds to round out and complete this facet of our long range Tuberculosis Program.

The State Board of Health, meeting May 12, 1953, recommended the following sanatorium construction during the next four years:

For the first biennium:

1. That 200 sanatorium beds for Negroes be added to the 50 bed surgical-diagnostic-teaching unit already under construction in Richmond.
2. That the equivalent of 50 beds for surgical treatment of tuberculosis be provided as part of the University Hospital at Charlottesville. These would serve primarily patients from Catawba and Blue Ridge.
3. That 150 beds be added to Blue Ridge Sanatorium. These would complete the original planned expansion, for which funds were appropriated immediately prior to and including 1948, but which, in the light of rising costs, etc., proved insufficient for this final wing. Addition of this wing to the present main hospital unit would be relatively in-expensive, because expansions of basic utility resources in the sanatorium during the past several years, were made with this wing also in mind; as a matter of fact, major conduits lead right up to the point where the proposed unit would connect with the main building.

In addition, $5,000.00 has more recently been recommended by the Board to study "the necessity and feasibility of constructing a 400 bed sanatorium in the Tidewater area".

For the second biennium:

The "Tuberculosis Study—1952" report states that *ideally* no new institutions should be built in Virginia; that is to say, beds should be added to the four existing (or planned for) state sanatoria.

However, inasmuch as Catawba and Piedmont are not as close to Medical Centers as changing trends in tuberculosis treatment now indicate they should be, *ideally,* it was recommended by the Study Group that a 400-bed state sanatorium be constructed in the Tidewater area. The recommendation was formally approved by the State Board of Health as a project for the second biennium, *provided,* a suitable site could be agreed upon well in advance, where the unit could become a part of a recognized medical center, similar to the arrangement envisaged for Richmond. This sanatorium would house both white and Negro patients.

It is vital to an effective Tuberculosis Control Program to have sanatorium beds sufficient to meet

the needs of patients who require hospitalization, particularly in this new era of surgery and specific drug therapy. The present dearth of such facilities is proving increasingly demoralizing to physicians, patients, public health workers and public alike, as the aims and *possibilities* of a total tuberculosis eradication program gradually become more widely understood and appreciated.

Enactment and enforcement of simple quarantine laws must be delayed until there are enough hospital beds to take care, as well, of cases who *also* pose serious public health problems, but who are eager to accept hospitalization. As of now, only the flagrant and wilful violators of the most elementary laws of hygiene and decency are isolated by court order. These are sent to prison not because they are innocent victims of tuberculosis in a heavily communicable stage, as some would have you believe, but because, having tuberculosis in a heavily communicable stage, they *also, insist* upon "spitting in your face", so to speak; they are sentenced for the *latter* offense!

Ordinary quarantine cases are not criminals, in *any* sense—they merely need a little boost to get them into a sanatorium, where, in the experience of one of us in another state, they can be handled very well, right along with other patients. Of course, there must be a place where they know they can, as individuals, be incarcerated, temporarily at least, if they get restless or *won't* behave.

It is the conviction of the State Health Department that all but a very small residue of those recommended for sanatorium care can be influenced by education or public opinion to accept placement, without resort to quarantine.

The second set of recommendations made by the Tuberculosis Study Group confirms and urges immediate adoption of plans for the establishment of Regional Chest Clinics, plans long considered by the State Health Department to be vitally important to a well balanced tuberculosis program. Accordingly, several hundred thousand dollars will be requested of the next Assembly by the State Health Department to establish some eighteen of these clinics throughout the Commonwealth to provide diagnostic and treatment facilities in areas where none or few now exist. They are to be conducted weekly or bi-weekly by one or more *local* physicians approved by their own local Medical Society, and will be under the general supervision of a chest specialist from a neighboring sanatorium or Medical Center who will visit each clinic regularly and be on call.

Complete medical supervision will be rendered the indigent, upon request of his doctor; x-ray, laboratory, and consultation service will be available to the semi- or "medically" indigent patient referred by his attending physician. All findings and recommendations in the latter instance will be made direct to the attending physician, who thus retains full control of his patient. Where corresponding facilities are not otherwise available, clinic services also can be utilized by any local doctor for his more well-to-do patients. Where adequate facilities and professional services can be procured privately, however, the physician will be requested not to refer to the clinic those able to pay.

Assurance would thus be given that completely met would be the needs of those who are suspected of having the disease, those whose conditions permit from the beginning successful treatment outside a sanatorium, and the large number who today are *customarily* discharged from sanatoria with *active* tuberculosis, not only in Virginia, but in other states, particularly where an acute shortage of beds exists. By relieving sanatoria of those no longer in need of sanatorium care *as such,* badly needed beds are made available for new applicants. However, on the other hand, it would be very expensive, not to say impractical, to attempt to keep *all* patients in sanatoria until they were no longer in need of *any* treatment.

These routine dischargees would, therefore, from the very beginning, in Virginia, constitute a large group of patients who would very definitely benefit from Regional Chest Clinics. May I elaborate briefly.

For years, many *needless* "relapses" have been reported and continue to occur because patients who have earned a right, *in* a sanatorium, to anticipate, *following* discharge, regular increments of physical exercise and permission to indulge in other types of exertion involving expenditure of energy, are not as carefully supervised as they should be by a physician during this latter period, to make sure that these increments are appropriate and properly spaced. The sanatorium is too far away for frequent check-ups; the local physician too often lacks the supportive services, physical and/or consultative, that he needs to provide the meticulous supervision required.

Vocational rehabilitation personnel from the De-

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partment of Education are continuously dependent upon sound current medical advice as to the clinical status of their charges, some of whom are engaged in, others of whom may be contemplating, preliminary vocational rehabilitation projects. Rehabilitation personnel do not always receive the type of clinical evaluation upon which success of their program ultimately depends.

Close supervision during this very critical post-sanatorium period is necessary for *all* dischargees to make sure that at no time during successive increments of leisure placed at their disposal do they exceed or "cancel out" the benefits of concomitantly reduced (or residual) periods of systemic rest, upon which they must depend to complete the cure of the low-grade, often asymptomatic, perhaps wholly subclinical, but nevertheless *active,* disease they had at time of discharge. In other words, they are still *patients,* in every sense of the word—requiring varying types and degress of formal treatment for varying periods of time.

Naturally, therefore, sanatorium dischargees, even when known to be in need ultimately of vocational training, are seldom suitable for direct transfer to a full-blown rehabilitation center, such as Woodrow Wilson. Whether they will *ever* qualify for a full time rehabilitation course, will, like the ultimate recovery of other patients, depend entirely upon what happens to them after they return home.

Full-blown institutionalization, for the purpose of providing what today constitutes a major segment of "post-sanatorium" care, has not been practiced widely enough, for its practical benefits, in relation to costs, to have been definitely established. Not until the alternative less costly method of caring for these patients in their respective communities has been exploited, through full use of Regional Chest Clinics by a thoroughly alerted profession, will it be possible to estimate with any degree of accuracy the number of sanatorium or other institutional beds that may eventually be needed to successfully cope with those who cannot be satisfactorily cared for locally during this period.

Similarly, in this way only can be determined precisely how many newly diagnosed active cases of tuberculosis will actually need immediate or *eventual* hospitalization. We submit it would be inhumane, even more than expensive, to continue indefinitely to insist upon categorical hospitalization of *every* active case, minimal, asymptomatic, and all, and then attempt to prove the point by offering *no* potentially acceptable alternative!

Obviously, Regional Chest Clinics would make possible the limiting of applications to sanatoria to definitely diagnosed cases. Moreover, should sanatorium beds still be at a premium at the end of the next biennium (and they will be—it takes time to build sanatoria), the existence of Regional Chest Clinics, as described, would, *for the first time,* make feasible the routing of all applications for admission through a central point. This would be made possible because *relative* medical need and public health problems presented by individual applicants could then be intelligently compared, because of standard practices utilized for making clinical evaluations in widely separated parts of the state. Up to now and at present, no one in any sanatorium, group of sanatoria, or in an office in Richmond could be expected to be able to give a true priority rating to patients for admission, examined as they are by *many* physicians, over the whole state, who lack, to varying degree, access to acceptable facilities and services, consultative and otherwise.

SUMMARY

1. Integration of the entire medical profession, with particular reference to those who do not limit their practices strictly to conditions other than chest, into an all-out program for eradication of tuberculosis in the Commonwealth of Virginia, is of *paramount* importance to the success of that program.

The State Health Department has never been as seriously concerned as some over the present high percentage of tuberculosis deaths which have not previously been reported to health authorities as cases, as it has been interested in trying to bring about as soon as possible a state-wide participation of physicians in our program; once the latter objective has been attained, prompt reporting of persons having tuberculosis will result in due course; poor reporting, in *our* opinion, is primarily a *symptom* of a condition which, with your help, will soon be remedied.

2. Many physicians, public officials and others are well aware of the prevailing shortage of sanatorium beds. A number of factors, which cannot be weighed definitely at this point, will eventually provide clues to ultimate needs. Current recommendations of the State Board of Health have been based upon needs

which appear to be fairly obvious. More than 400 persons currently are on our waiting lists. Scarcely a day passes when our office in Richmond does not receive a letter describing a tragic situation in a local community posed by an individual patient in need of sanatorium placement. Most of these are referred to as dire "emergencies", and we do not doubt but that most of them are; by "huffing and puffing", we can occasionally squeeze one in. Once in a while, one is voluntarily committed to the State Farm—the only place that can be found in the entire state for him to lay his head. But the *only* real way to meet these many acute community problems—and the epidemic of headaches which accompany—is for those in positions of influence, who are personally aware of these problems, to *do* something about them—persuade those who represent them in the Assembly to appropriate more funds to provide more beds.

3. Physician interest in sanatoria for the most part is limited naturally to an ability to secure beds promptly for his patients who require sanatorium care; actual operation of the sanatorium is of little or no direct concern. But a much more intimate and ever-growing personal relationship can and should gradually evolve between the private physician and the staff who operate Regional Chest Clinics, for these are designed to place *at the local physician's disposal* invaluable supplementary tools, which *he himself* can call upon to whatever extent he deems necessary or advisable, to solve day to day diagnostic problems, and to maintain up-to-the-minute supervision of his tuberculosis patients.

Years ago, a professor at Hopkins said, "You cannot diagnose a disease unless you think of it." The more completely the general practitioner accepts renewed interest and responsibility for diagnosis and care of the average run-of-the-mill case of tuberculosis, the *more* "tuberculosis conscious" will he become, generally, in his practice—the more promptly will he recognize indications for early consultation, diagnostically or treatment-wise.

Regional Chest Clinics will help Local Health Departments and Public Health Nurses do a better job by making possible for them to work more closely and effectively with patients and their attending physicians, *and* by making feasibly closer integration between Local Health Departments, sanatoria, rehabilitation directors and councillors of the Department of Education, Welfare Departments, Federal, out-of-state agencies, etc., to the advantage of all.

When it is recalled that all eighteen Regional Chest Clinics can be established for little more than half the price of one fifty-bed ward in a tuberculosis sanatorium, it would appear to be extremely important that each of them be activated as soon as possible, not only because of intrinsic services they will be prepared to render, but because of the potential effect their successful operation should have in helping to establish ultimate need for additional, more expensive, sanatorium beds.

Award for Outstanding Research in the Field of Infertility.

The American Society for the Study of Sterility announces the opening of the 1954 contest for the most outstanding contribution to the subject of infertility and sterility. The winner will receive a cash award of one thousand dollars, and the essay will appear on the program of the 1954 meeting of the Society. Essays submitted in this competition must be received not later than March 1, 1954. For full particulars concerning requirements of this competition, address The American Society for the Study of Sterility, c/o Dr. Herbert H. Thomas, Secretary, 920 South 19th Street, Birmingham, Alabama.

The author should append on a separate sheet of paper a short biographical sketch of himself and include a photograph to be used in the necessary publicity should he be the winner of the award.

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THE CLINICAL USE OF DIGITALIS PREPARATIONS IN CONGESTIVE HEART FAILURE*

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and
R. P. BECKWITH, M.D.,
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As one observes the management of patients with congestive heart failure in various hospitals, clinics and offices, it becomes apparent that the place of digitalis in such therapy and the methods by which it can be used to the best advantage are not fully appreciated. This can be attributed to a number of factors, one of the more important of which is the growing tendency to put more and more emphasis on the use of "salt-depleting" regimens, such as low-salt diets, mercurial diuretics and cation-adsorbing resins. Another factor is the confusion resulting from the introduction of many varieties of digitalis preparations, all of which have essentially similar cardiac effects, but which differ widely in their dosage, routes of administration, absorption, speed of action, duration of effects and toxicity. In view of this situation, it seems worthwhile to discuss the use of digitalis in general and the special features of the various digitalis preparations now available.

In regard to the general use of digitalis, one cannot but deplore the present tendency to relegate this drug to a secondary role in therapy. This is evident in the emphasis placed on salt-depleting regimens to the point that these have become, in the minds of many physicians, the primary method of treatment. Some even have gone so far as to advocate the use of these regimens exclusively, with digitalis completely eliminated from their armamentarium. It is also evident in the great store that appears to be placed on "wringing-out" such patients, with the apparent objective in mind that the more rapid and profuse the diuresis, the better the treatment and more skilled the physician.

Such reasoning can be attributed to the prevalence of certain misconceptions regarding the nature of congestive heart failure. It seems, therefore, that a brief discussion of the pathogenesis of congestive failure is in order, particularly in the light of recent advances in our knowledge of this subject. It is only by understanding the nature of the pathological state we are attempting to treat that we can use intelligently the therapeutic means at our disposal. There is still much that remains obscure in the process by which heart disease leads to the congestive phenomena we recognize as congestive heart failure. Nevertheless, in recent years, certain definite facts and much clearer concepts have emerged which clarify some aspects of the problem. Time does not permit any detailed review of this entire subject, nor is there opportunity to mention the data from which some of the conclusions are drawn, but certain pertinent points should be mentioned.

It is now apparent that the heart fails in one and only one way, that is, by an inadequate output for the needs of the body. However, most patients with heart disease become disabled, not by the usual manifestations of an inadequate cardiac output, but by a group of congestive phenomena. These latter are the consequences of fluid accumulation in the body, which can be brought about only by some alteration of renal function. This alteration in renal function is not a primary disturbance in the kidney, but, in some manner, is a response to the inadequate output of the diseased heart. Recent evidence suggests that this action by the kidney may be a regulatory one and, therefore, purposeful, even though it eventually becomes disabling. Since the heart has failed because of intrinsic disease which has impaired its efficiency, our first consideration should be given to drugs which directly affect the heart. Any therapy which is directed primarily towards removal of the accumulated fluid is symptomatic therapy. Since the accumulation of fluid is not the consequence of deranged kidney function, but represents a possible purposeful mechanism, attempts to upset the kidney's function by diuretics, while resulting in the removal of the accumulated fluid, nevertheless, are

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quite disturbing to the kidney's general and specific regulatory mechanisms. As a consequence of this and other salt-depleting regimens, derangements in the body's internal environment can result and, in some cases, this may be more incapacitating than the original congestion. Figure 1 shows the diuresis (indicated by the weight reduction) and the serum

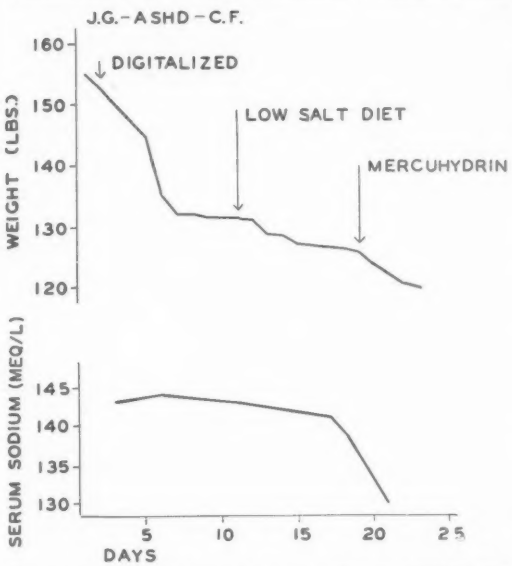

Fig. 1.—Diuresis and changes in serum sodium in a patient with congestive heart failure treated successively with digitalization, low salt diet and a mercurial diuretic.

sodium level in a patient treated successively with digitalization, then the addition of a low-salt diet, and, finally, the administration of a mercurial diuretic. On digitalization alone, there is a very satisfactory diuresis without any significant change in the serum sodium from the normal range of 142-145 mEq./L. Low salt diet brought about a further slight reduction in weight and a concomittant slight fall in serum sodium to 141 mEq./L. When a mercury diuretic was used there was still further weight loss and a marked drop in serum sodium to 130 mEq./L, a definitely abnormal value. This is a somewhat extreme example, but it brings out several pertinent points. The first is that a very satisfactory and, in many instances, an entirely adequate diuresis can be accomplished by digitalization alone. In this case the fluid loss amounted to approximately 25 pounds over a six day period and resulted in relief of the patient's symptoms. A low salt diet brought about an additional weight loss of about 5 pounds without any serious disturbance of the serum sodium. The mercurial diuretic resulted in further weight loss, but also produced a marked drop in serum sodium. This brings up the second point demonstrated by this case which is in the nature of a philosophical question. Was the loss of an additional 6 pounds of fluid by the mercury diuresis really beneficial and worthwhile to this patient in view of the severe reduction in serum sodium produced by it, especially when this residual fluid was producing no particular disability? We have not yet learned about all the disorders of the internal environment produced by mercurial diuretics, but reductions in serum sodium, as happened in this case, are well known, and disturbances in renal function to the point of renal failure can occur. There probably are many other alterations in homeostasis which have not been studied or cannot be measured.

Admittedly, there comes a time in nearly all cases when it appears that digitalis preparations are not sufficient to control the disabling manifestations of congestion. This, however, should be much later on in the course of the patient's illness. If digitalis therapy has been adequate in initiating and maintenance doses, patients can be carried for long periods in this manner without the need for diuretics. In our experience, situations where salt-depletion therapy appear to be indicated because digitalis therapy apparently is ineffective, are actually instances in which digitalis was given in a casual manner and in inadequate amounts. This is not a condemnation of the use of salt-depleting regimens as therapeutic procedures at the proper time, but they should be reserved for a later time when digitalis, although given in adequate amounts, becomes less effective in controlling the congestion. When finally we have to resort to them, we should be fully aware that a reduction in accumulated fluid is achieved at the expense of disturbances in homeostasis, some of which can be quite serious. Even so, these therapeutic means should not be pushed to their limits in an attempt to "wring-out the patient" and remove the last ounce of accumulated fluid. A little edema in the legs never hurt anyone, and certainly is better than hyponatremia and azotemia, and possibly other disturbances. Much more could be said regarding salt-depleting mechanisms, not only as to their disadvantages, but also in their favor. They give rise to many intriguing problems and speculation. We have been, perhaps, somewhat overcritical of them, but this was to conteract what we

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consider to be an over-enthusiasm for them and to emphasize that digitalis holds the primary role in the management of congestive heart failure. The action of digitalis is directly upon the source of the trouble, the heart, and it is effective without further upsetting the internal environment of the patient. It should be the initial therapy and should be used to the exclusion of salt-depletion for as long as it is effective.

Next, we come to the manner in which digitalis should be used in order to achieve optimum benefit from it. Inadequate digitalis administration is a more common failing than over-digitalization. Quite often patients are given too little digitalis and, as a consequence, fail to respond sufficiently or fail to maintain their response, so that additional therapeutic procedures appear to be indicated. There is a marked individual variation in the quantity of digitalis needed to produce therapeutic effect and it is impossible to compute by any formula what a particular patient will need. It should be emphasized that there is no standard dose of digitalis equally effective in all patients for either digitalization or maintenance, regardless of the preparations used or the route of administration. The absorption of some preparations from the gastro-intestinal tract is so variable and inconstant that one cannot even approximate the therapeutic dose. Absorption is less variable in other preparations and is no problem at all in parenteral administration. Nevertheless, even in these instances, there is the additional factor of individual variation in the effective therapeutic level required, with the result that the quantity of digitalis required in any one case can only be approximated. Thus, each patient must be handled individually and his digitalis requirements determined by experience.

Where the failure is associated with some type of arrhythmia, such as auricular fibrillation, some indication of the adequacy of digitalis administration can be obtained from the response of the ventricular rate. Where failure is associated with a normal sinus rhythm, the ventricular response is of less value. Actually the only way of insuring adequate digitalization is by pushing digitalis administration to intoxicating levels. While we do not advocate this as a routine procedure, it does have merit when carried out cautiously and, by using the now available shorter-acting digitalis preparations, the hazards of prolonged, dangerous intoxications are less likely. Where patients are under close supervision, we are tending to resort more and more to this method of administration. This is accomplished in previously untreated cases by giving an approximately standard digitalizing dose initially and then "pushing" digitalization by the administration of more than the daily maintenance dose to the point of nausea or other manifestations of intoxication.

In the patient who has had a return of congestion while on supposedly maintenance digitalis, our first consideration, invariably, is an increase in the daily dose of the drug by two or three fold. Figure 2

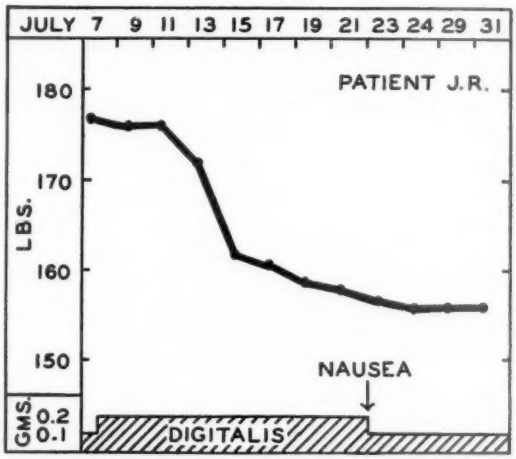

Fig. 2.—Diuresis resulting from an increase in the maintenance dose of digitalis ("pushing" digitalis).

shows the response to such an increase in the maintenance dose of digitalis. This patient had a recurrence of congestive phenomena while on a maintenance dose of 0.1 gm. of digitalis leaf. Increasing the maintenance dose to 0.2 gm. resulted in a satisfactory diuresis and a relief of the patient's symptoms. This favorable response has occurred in nearly all cases where such a therapeutic approach was made and demonstrates that the return of congestive phenomena in these instances was the consequence of inadequate initial digitalization, inadequate maintenance therapy or an increase in the patient's digitalis requirements. At one time we would have considered digitalis ineffective in these cases and gone on to the use of additional therapeutic measures, such as salt-depleting regimens. Now we find that patients can be maintained symptom-free on digitalis alone for long periods of time.

We come now to a consideration of specific digitalis preparations, their particular properties, meth-

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ods of administration, their disadvantages and their virtues. There are many preparations, all of which have the same general cardiac action, but which differ markedly in the special properties of cost, potency, standardization, dosage, routes of administration, absorption, speed of action, duration of action, elimination, and cumulation. For this reason, the physician must be aware of the peculiarities of each preparation and use the one more suited to the therapeutic needs of each patient.

Any patient can be adequately digitalized and maintained with almost any digitalis preparation provided it is done with diligence and thoroughness. However, some preparations are quite troublesome to the physician and quite bothersome to the patient. Some preparations are so difficult to use that they are largely impractical, while others cannot be used because of intolerance by certain patients. In some instances, special preparations are needed because rapid effects or parenteral administration are required. The situation in patients in congestive heart failure varies not only among patients, but also in the same patient from time to time. Under certain conditions one type of preparation will be more effective and practical and less hazardous than others. One should have familiarity with several preparations, each one being the preparation of choice under a different set of circumstances. There are some preparations which have no particular usefulness at all. Of the remainder, the superiority of one preparation over another is related to methods of administration, prediction of dosage, speed of action, margin of safety and duration and type of toxic reaction. In considering the choice of preparations to be used in a patient we must consider how rapidly he needs to be digitalized, what route can be used, and how closely he will be followed.

Specifically, the various preparations of digitalis can be divided into three groups: (1) Crude Drug Preparations, (2) Soluble or Purified Preparations of the Crude Drug, and (3) Glycoside Preparations.

Crude drug preparations have powdered whole leaf of digitalis as their essential ingredient and consist of tablets, capsules, infusions, tinctures and suppositories. Infusions and tinctures are unsatisfactory and have largely been abandoned. We have had no experience with suppositories, so can give no first-hand information about them. It is possible that they may prove useful for maintenance therapy where the oral route cannot be used. Tablets and capsules are about equal in efficacy and, in spite of the current enthusiasm for the newer and more potent digitalis preparations, these crude drug preparations still remain a very satisfactory tool in the treatment congestive heart failure. They have the advantages of long use and familiarity, of being cheap, and, above all, are safe for outpatient treatment of patients under inconstant supervision. Almost any patient can be adequately digitalized and maintained with these drugs without too much difficulty. Their disadvantages or limitations consist of varying potency and absorption, slow action, somewhat prolonged effects and the fact that they can be administered only by the oral route. Varying potency and absorption are definite disadvantages but are not too serious since every patient has to be treated individually anyway, regardless of the preparation used. These disadvantages can be overcome to a large extent by using the same brand of specific crude drug preparation in a given patient. They are somewhat slow in action, taking from two to six hours for minimal effects and from twelve to twenty-four hours before maximum therapeutic effects are obtained. Except in those instances of congestive failure associated with rapid ectopic rhythms, this slow action is of no particular consequence since rapid digitalization is not necessary. As a matter of fact, even in critical cases, no digitalis preparation is going to be effective right away, and much can be done to alleviate symptoms immediately by narcotics, rest, oxygen when practicable, the application of tourniquets to the extremities and venesection when indicated. Digitalis is the primary early drug, but it is for long-term therapy and whether it is effective within several hours or after many hours is of no real consideration in most cases. The prolonged action of digitalis leaf is a disadvantage only when patients receive intoxicating doses, since it may take several days before these manifestations subside. The most serious limitation of the crude drug preparations is that they cannot be used parenterally.

On the whole, they are quite satisfactory for digitalizing the average patient. They are the safest of all preparations for maintenance therapy, since patients on these preparations usually develop prodromal symptoms of intoxication before serious cardiac toxicity occurs. There are many different preparations, since most every pharmaceutical company makes this product, and, so far as we know, one is just about as good as another. It is important,

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however, to stick to one particular preparation, since the potency may vary between brands and you should be familiar with the one you use. The dosage schedule for digitalization depends upon how rapidly it needs to be accomplished and how closely the patient is to be followed. It varies anywhere from 6-12 grs. a day for more rapid digitalization to 3-6 grs. a day for slower effects. The maintenance dose of digitalis leaf, like the digitalizing dose, also varies and must be determined by trial in each individual. We have found this to vary from 1½ grs. every other day in some patients to as much as 3 grs. or more daily in others.

The soluble or purified preparations of the crude drug consist, for the most part, of mixtures of the active principles of digitalis from which much of the inert or irritant material of the crude drug has been removed. There are a number of these preparations* on the market and they are available in tablet, suppository, liquid and injectable forms. The tablets are somewhat expensive and, other than producing less local gastric irritation, have no particular superiority over the crude drug. The liquid preparations are designed for oral administration and are most useful in infants and children where fractional doses are used and where liquid oral preparations are the only practical method of administration. The injectable preparations are for parenteral administration, either intramuscularly or intravenously. In instances where the oral route cannot be used, digitalis therapy can be carried on by the intra-muscular administration of these preparations, but this is not too satisfactory because of the irritation and pain generally produced at the site of injection. There is no particular need for their use intravenously because other preparations are available which are far superior for administration by this route.

The *Glycosides* are newer digitalis preparations which are superior to the previously discussed preparations in many respects and have special properties which render them the drugs of choice under certain circumstances. Nevertheless, they have certain disadvantages which limit their usefulness in all instances and have dampened, somewhat, the enthusiasm with which they were first introduced. These glycosides are contained in both digitalis purpurea and digitalis lanata, and are divided into two groups, the natural and "purified" glycosides. The natural glycosides in purpurea are identical with those in lanata, except that they lack the acetyl group and are, therefore, known as deacetyllanatosides. The purified glycosides are derived from the natural glycosides by the removal of glucose molecules. Thus *digitoxin, gitoxin,* and *digoxin* are degradation products of natural glycosides, which have lost glucose during the process of "purification". This process alters the properties of the glycosides, but the resulting "purified" preparations are not thereby rendered superior to the natural glycoside since it is felt by some investigators that the presence of glucose facilitates the action of the glycosides. The natural glycoside for *gitalin* in purpurea has not been isolated. Some of these glycosides are not available for clinical use, while others, such as gitoxin and gitalin, have been available an insufficient period of time for adequate evaluation. This particular portion of the discussion will be concerned with digitoxin, lanatoside C and digoxin, on which much clinical data has been accumulated. In passing, however, it might be mentioned that gitalin shows promise because of its low (33%) therapeutic index (the ratio of therapeutic dose to the toxic dose) as compared with most other preparations which have an index of about 60%. In addition, mixtures of glycosides, of which "Digilanid"† is an example, show promise and, ultimately, some such mixture may be developed which approaches the "ideal" preparation.

Digitoxin was the first of the glycosides to be isolated and made available for clinical use, so that more information has accumulated on this than on the other glycoside preparation. It has a number of advantages. It is standardized gravimetrically and biologically and is considered to have unvarying potency. Since it is completely absorbed from the gastro-intestinal tract, the oral and parenteral doses are the same. It has a rapid onset in action, the fastest preparation available for oral administration. Its therapeutic effects begin in 1-2 hours after oral administration and full therapeutic effects are attained in about 4-6 hours. It produces no local gastric irritation and does not cause nausea or vomiting except in toxic amounts by central action.

Digitoxin has several disadvantages. Because it produces little or no nausea or vomiting, except in

*Brand names: "Digicardium" (Rorer), "Digifolin" (Ciba), "Digitalis Injection" (Upjohn), "Digiglusin" (Lilly), "Digalen" (Hoffman-La Roche), "Digifortis" (Parke-Davis).

†Sandoz Chemical Works, Inc.

quite toxic doses, there may be no prodromal symptoms of toxicity. Toxic arrhythmias, such as bigeminy, may develop without any symptoms whatever and it is possible that fatal disturbances in the heart beat may occur without prior warning to the patient. This insidious development of serious toxicity renders it a less desirable preparation for maintenance therapy, particularly where there is inconstant supervision. In addition, it is slowly eliminated from the body which tends to result in cumulation, and patients may gradually retain toxic amounts on what were thought to be a maintenance dose. This slow elimination is also a disadvantage in situations where toxic amounts are given because toxic manifestations may persist for as long as three to five days. In spite of these less desirable characteristics, we find that for some situations digitoxin is a most useful and satisfactory preparation. It appears to be the best preparation available for oral digitalization, since it is rapidly effective and is unlikely to upset patients who are already ill from congestion failure. There are a number of digitoxin preparations on the market.*

The recommended digitalizing dose has been given as 1.2 mgm., but it should be emphasized that this is the average digitalizing dose, suitable for the majority of patients, but too much for some and too little for others. The implication that there is a standard dose for digitoxin has led to the erroneous concept that the same dose of this drug, as well as other preparations, is proper in all cases. Actually the digitalizing dose varies from 1.0 to 1.5 mgm. This can be given as a single dose, but it is safer to administer it in divided doses over a period of 8-12 hours. The difficulty in accomplishing adequate digitalization with digitoxin is that pushing it to the point of toxicity results in prolonged toxic manifestations. To avoid this, one can give a basic dose of digitoxin (1.0—1.2 mgm.) and then push digitalization with some other, less persisting, preparation. Digitoxin can be used for maintenance, but the patients must be followed at regular intervals because toxicity may develop insidiously. The maintenance dose for digitoxin varies from 0.1 mgm. to 0.2 mgm. It is well to remember that a small difference in the dose of this preparation makes a considerable difference in its effects.

*Brand names: "Digitaline Nativelle" (Varich), "Digisidin" (Winthrop-Stearns), "Purodigin" (Wyeth), "Cardigin" (National Drug), "Crystodigin" (Lilly) and "Foxalin" (Grant).

There are intravenous preparations of digitoxin, but we prefer not to use them because they are quite potent and, in a few instances, untoward results have occurred immediately following such administration. We believe that there are other more satisfactory intravenous digitalis preparations.

*Lanatoside C** is one of the natural glycosides of digitalis lanata and is a chemically pure, crystalline substance which is standardized gravimetrically and biologically. It is an unsatisfactory oral preparation because of its poor (10%) absorption from the gastro-intestinal tract and its slow action when given in this manner. On the other hand, we consider it the preparation of choice for intravenous digitalis administration, since it is relatively safe and has a rapid onset of effect. It is particularly useful in instances where the quantity of digitalis given previously is unknown. Lanatoside C can be given under these circumstances in divided or partial digitalizing doses by the intravenous route without any adverse effects. As a matter of fact, it has been shown that a full digitalizing dose of lanatoside C can be given intravenously with impunity to a patient already digitalized. The average digitalizing dose is 1.6 mgm., which can be given in single or divided doses. Its therapeutic effects begin within 15 to 30 minutes and full therapeutic effect is attained in 3-5 hours. The duration of effects is relatively short, with therapeutic levels lasting less than 24 hours. This short duration effect renders it difficult to maintain adequate digitalis levels on this preparation alone. It is necessary to establish more permanent digitalization with one of the longer-acting preparations, such as digitoxin or whole leaf. For best results this latter should be given in divided doses beginning about 6 hours after initial lanatoside C administration. Figure 3 illustrates the rapidity with which digitalization is achieved with intravenous lanatoside C. The brief duration of its effects is demonstrated by the beginning rise in ventricular rate after about six hours. Permanent digitalization was accomplished by giving digitoxin in divided doses at a subsequent time. It is apparent that the institution of permanent digitalization should have been started earlier (6 to 10 hours) in order to maintain the full digitalization achieved initially by lanatoside C.

Digoxin† is a purified glycoside obtained from

*Brand name "Cedilanid" (Sandoz).
†Brand name: "Digoxin" (Burroughs Wellcome).

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lanatoside C by degradation. It is a pure, crystalline substance that is standardized gravimetrically. It is almost completely absorbed from the gastrointestinal tract and is, therefore, a satisfactory oral

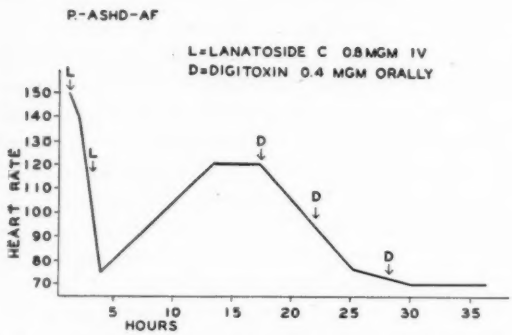

Fig. 3.—Effects of lanatoside C and digitoxin on the ventricular response in auricular fibrillation. (See text for discussion).

preparation. The digitalizing dose varies from 1.0 to 3.0 mgm. and the maintenance dose is between 0.05 to 0.5 mgm. Orally, the therapeutic effects of digoxin begin in 1½ to 2 hours and full therapeutic effect is attained in 8 to 10 hours. The duration of action is very short; the therapeutic effects lasting less than one day. Because of its rapid elimination, it is very difficult to accomplish adequate digitalization and maintenance with this preparation alone. It would appear a preferable drug for pushing digitalis because, if toxic manifestations occur, they last only a few hours. We have used it in this manner by giving 0.5 mgm. doses of digoxin in addition to a daily maintenance dose of digitalis leaf or digitoxin. There is an intravenous preparation of digoxin but this is not as satisfactory as other ones which are available.

Summary: Figures 4 and 5 compare the onset and duration of action of the various digitalis preparations when given orally and intravenously. From these illustrations and the foregoing discussion, it is apparent that the various preparations differ in the manner in which their therapeutic effects are achieved and, hence, each has special features which make it particularly advantageous under certain circumstances.

Digitalis leaf (crude drug) is a satisfactory and safe preparation for oral digitalization and maintenance and still remains a valuable drug for these purposes.

The purified crude drug preparations produce somewhat less local gastric irritation and are of value in special cases of intolerance to the crude drug. Otherwise, the tablets and capsules have no particular advantage over crude drugs for routine oral use. The liquid oral preparations of purified crude drugs are most useful in giving fractional doses to infants and children. The parenteral preparations can be used by the intramuscular route for maintenance therapy in cases where oral administration is impossible. We do not believe they have any particular place in intravenous administration.

Digitoxin appears to be the best preparation for oral digitalization because of its rapid effects and

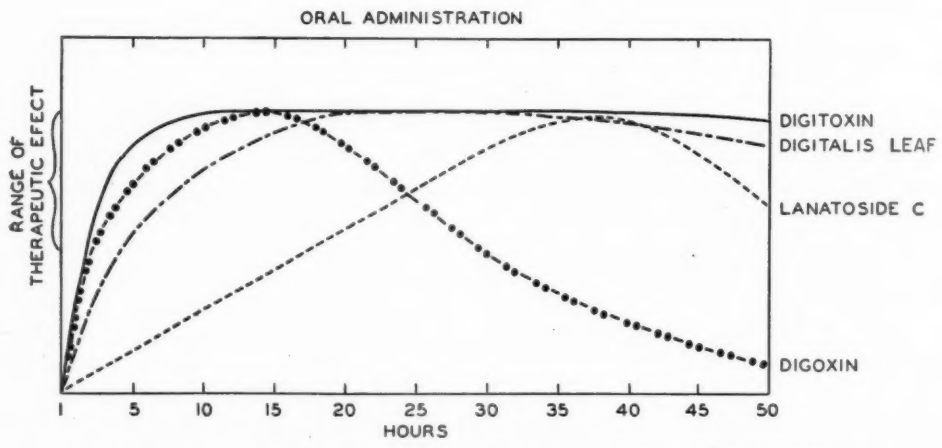

Fig. 4.—Comparison of the time of onset and duration of therapeutic effects of digitoxin, digitalis leaf, lanatoside C and digoxin when given orally.

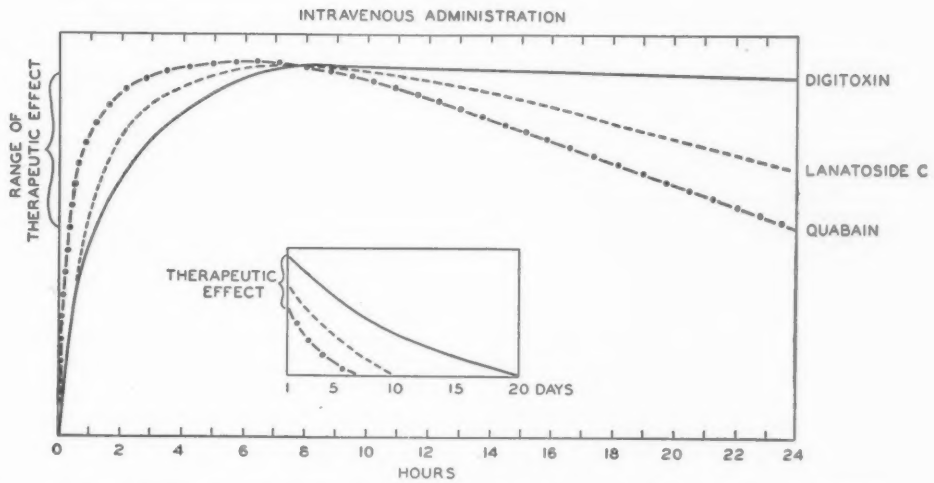

Fig. 5—Comparison of the time of onset and duration of therapeutic effects of digitoxin, lanatoside C and quabain when given intravenously.

lack of local gastric irritation. It is safe to use for maintenance therapy, provided there is adequate supervision. We consider it a somewhat hazardous intravenous preparation.

Lanatoside C, in our opinion, is the ideal preparation for intravenous use, when rapid digitalization is desired or when digitalis cannot be given orally. It is of particular value in patients in whom the quantity of previously administered digitalis is unknown. It is not a very satisfactory oral preparation for digitalization or maintenance because of its poor absorption, its delayed onset of therapeutic effects, and its brief duration of effects.

Digoxin appears to be a useful drug in pushing digitalis to toxic levels since the toxic manifestations so produced are of short duration. The short duration of action makes it difficult to digitalize and maintain patients with this preparation alone.

This is by no means the final answer to the various aspects of specific digitalis preparations. There still is no ideal preparation for use under all circumstances, and the search for other preparations which are more suitable is continuing. This involves not only the isolation of new active principles, but also the very interesting work being done on the selective combination of active principles. The foregoing reviews the status of only those preparations with which there have been sufficient experience to warrant conclusions at the present time.

CONCLUSIONS

1. The optiman benefits from the use of digitalis preparations in the treatment of patients with congestive heart failure are not attained in many instances because of a failure to appreciate their place and proper use in such therapy and because of unfamiliarity with the special properties of the various preparations available.

2. Digitalis therapy is the treatment of choice in congestive heart failure since it has a direct and specific action on the failing heart and should be used initially and in preference to salt-depleting regimens.

3. Digitalis to be effective must be used in adequate amounts, both in initial digitalization and in maintenance therapy.

4. There are a great variety of digitalis preparations, all of which have special properties with which we should be familiar. We should be discriminating in our choice of preparations and, in any given situation, use that preparation which is most suitable under the circumstances.

XUM

LOCALIZED PULMONARY HYPERTROPHIC EMPHYSEMA

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Localized pulmonary hypertrophic emphysema has been described as a rare type of cystic disease of the lung. It is recognized as a definite clinical entity substantiated by radiologic and pathologic data. Some authors have called it congenital lobar emphysema; others, unilobar obstructive emphysema. Williams tabulated the ten previously reported cases and added one of his own. Sloan reported four cases at the 1953 meeting of the American Association for Thoracic Surgery.

This condition must be differentiated from congenital heart disease, atelectasis, interstitial emphysema with spontaneous pneumothorax, agenesis of a lung, congenital tension cyst, regional obstructive emphysema, foreign body in a bronchus and diaphragmatic hernia or eventration.

Shaw's description of the pathology of the condition is excellent. To quote: "The diseased segment or lobe is enlarged to many times its normal volume in a uniform dilatation of the air sacs. The bronchi, arteries, and veins are much smaller than one would expect to find supplying a segment of lung. Even when the bronchi are opened and the segment of lung tissue is removed from the body it does not collapse appreciably. It is uniformly pink in color even in adults, indicating that it has not taken part in the usual ventilation of normal lung tissue. Except for its pink color, it more closely resembles gelfoam than any other substance. Several hours after being removed from the body, this tissue will float upon water with less than a tenth of its volume being submerged. Microscopic examination of the tissue reveals air sacs and alveoli that are generally distended and empty. The intervening septae are thin and there is no inflammatory reaction. The blood vessels are small and have thin walls. The bronchioles are empty."

CASE REPORT

A white female, nine years of age, was referred to the Johnston-Willis Hospital by Dr. Tureman. The history was that of a normal, full term spontaneous delivery. She walked at ten months of age. Her speech was not plain until three to four years of age. She had had scarlet fever, chicken pox and measles without sequelae. During early childhood she had suffered from frequent upper respiratory infections which had diminished following tonsillectomy at the age of five. Her parents had noticed that from infancy she became upset easily and often had episodes of vomiting associated with these emotional upsets. These symptoms had gradually increased in frequency.

Physical examination revealed a well nourished and well developed nine year old girl. A diffuse pulsation was noted over the precardium and to the right of the sternum. An area of cardiac dullness was noted to the right of the sternum. A systolic murmur was heard to the right of the sternum. A gastrointestinal series was negative. A roentgenogram of the chest showed the heart and mediastinum displaced to the right with a cystic change in the left upper lobe (Fig. I).

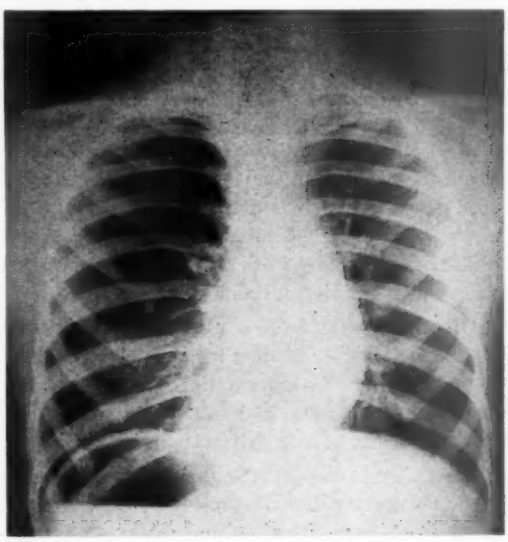

Fig. I. A. P. roentgenogram of the chest pre-operative.

She was seen by Drs. Camp and Langford and a congenital cardiac condition was excluded. After examination by Drs. Cole and Buis, who confirmed the diagnosis of localized pulmonary hypertrophic emphysema, surgery was advised.

On 2-10-53, she was explored. The left upper lobe except for the lingula segment was involved in the localized emphysema and filled the entire

Fig. II. A photograph of the specimen.

left chest (Fig. II). It bulged into the wound on opening the pleura and had produced an atelectasis of the left lower lobe. An upper left lobectomy was

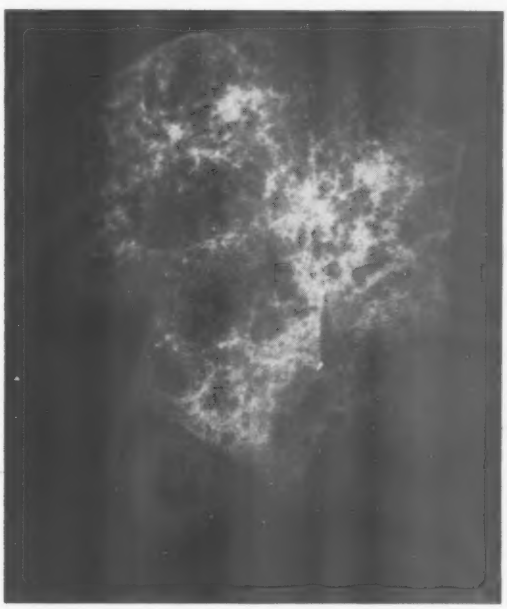

Fig. III. A roentgenogram of the specimen one hour after removal.

performed. Fig. III shows a roentgenogram of the specimen one hour after removal. The specimen measured 12x10x7 cms. and weighed 100 grams. It was soft, feathery to touch, crepitant and tended to collapse very slightly. The alveoli were widely dilated, the walls were very thin and tenuous, and many of these were broken and lined with a single layer of flattened cells. The walls of the bronchioles were thin and the lumina dilated. Fig. IV shows a low power photomicrograph of the specimen.

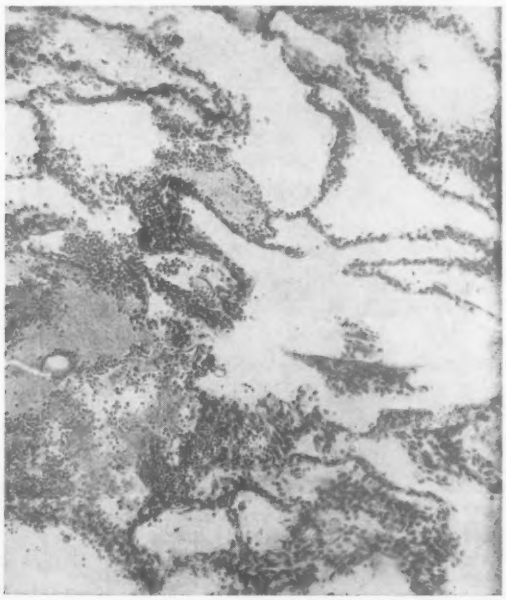

Fig. IV. A low power photomicrograph of the specimen.

The patient has done exceedingly well since operation. Fig. V shows a post-operative roentgenogram. The lower lobe has almost filled the extra pleural cavity.

Fig. V. A post-operative roentgenogram of the chest.

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There has been no recorded case of the disease occurring in the lower lobes. All recorded cases of this entity subject to lobectomy have survived with relief of symptoms. The etiology of the condition is unknown. Some authors have suggested a value mechanism produced by a fold of mucous membrane in the stem bronchus; others have thought a thin-walled bronchus might have been compressed by an adjacent vessel. Still others have felt a localized bronchial chondromalacia to be the etiology.

SUMMARY

A case of localized pulmonary hypertrophic emphysema in a nine year old girl successfully treated by lobectomy has been reported. All recorded cases of this condition which have been treated by lobectomy have survived. All recorded cases not treated by surgical removal have died. It would seem reasonable to conclude that lobectomy is indicated in this condition.

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New Drug Aids in Treatment of Heart Condition.

Methoxamine hydrochloride (vasoxyl, trade mark), a relatively new synthetic amine, successfully ended two attacks of excessively rapid beat of the upper part of the heart, it was reported in a recent issue of the J.A.M.A.

In two patients with the affliction complicated by vascular collapse, normal heart beat was obtained within a few minutes after intramuscular or intravenous administration of the drug, according to Drs. Alfred J. Berger and Robert L. Rackliffe, New Britain, Conn. The doctors are associated with the department of medicine, New Britain General Hospital.

"This drug is characterized by great rapidity of action" and differs from many other such drugs "in that it does not cause cardiac irritability," the doctors wrote, adding: "If further experience confirms its safety, it may prove to be the drug of choice in the treatment of supraventricular tachycardia [rapid beat of the upper part of the heart]."

No toxic effects of the preparation were noted in the cases reported.

XUM

ADENOCARCINOMA AND LEIOMYOSARCOMA OCCURRING IN THE SAME STOMACH—CASE REPORT

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An incidence of two such different malignancies occurring in the same stomach at the same time has never before, so far as we were able to determine after a rather thorough search of the literature, been reported. Multiple carcinoma of the stomach is exceedingly rare and a review of the literature from 1887 to 1940 by Schnieder[1] revealed only 10 authenticated cases. Multiplicity of carcinoma of the colon is well known and needs no further elaboration; carcinoma in association with other types of malignancy arising from other than epithelial structure is very uncommon. The case herein reported is an authenticated adenocarcinoma and leiomyosarcoma occurring in the same stomach. These microscopic sections were reported by the Department of Pathology at the University of Virginia Hospital, and further reviewed by Dr. Frank W. Foote, attending Pathologist at the Memorial Cancer Center in New York. In a personal communication from Dr. Foote[2] he states that in a recent review of the literature he was unable to find any mention of two such widely diverse tumors occurring in the stomach. Warren and Gates,[3] in their extensive and elaborate review of this subject which included autopsy study of over 4,000 necropsies on cancer patients, were also unable to demonstrate two such malignancies of the stomach.

CASE REPORT

G. P., #2427, a 68 year old colored male, was admitted to the Mary Washington Hospital, March 10, 1952, because of vague abdominal symptoms and weight loss. For eight years this man has had intermittent pain in the epigastrium which he did not associate with ingestion of food. About three months ago his pain became more severe until at the time of admission it was constant. Frequent vomiting had been present for seven days; no blood was noted in the vomitus, but tarry stools were noted for the last three weeks. Weight loss was significant; the patient stated he had lost 15 pounds during the last month.

No family history of significance was elicited. Except for the "indigestion" during the last eight years his health was good and he had worked as a farm hand until one month before admission to the hospital. A review of the systems disclosed no pertinent information.

Physical examination revealed a well developed 68 year old colored male who had obviously lost weight, and who appeared chronically ill. The mucous membranes were pale, and the skin was very dry. Blood pressure, 170/110; the chest was clear, and no cardiac abnormalities were noted. There was definite tenderness in the epigastrium, and a mass about 10 cm. in diameter located in the epigastrium was noted. The liver edge could not be felt, but the edge was percussed to a level of two finger-breadths below the costal margin. On rectal examination the prostate was felt to be slightly enlarged;

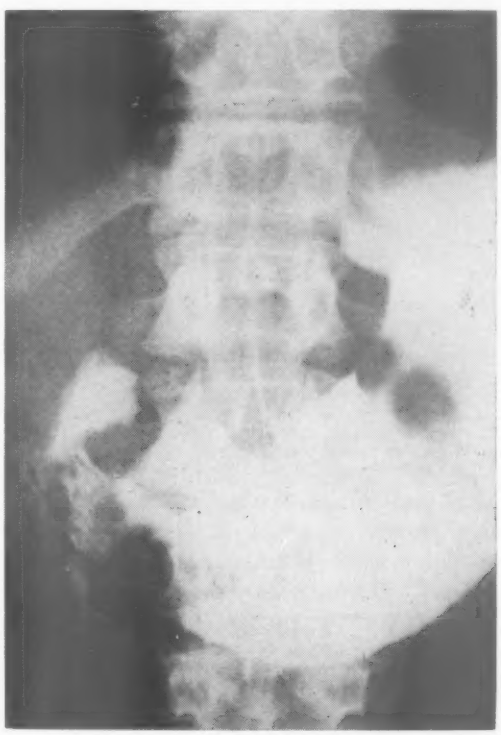

Fig. 1. X-ray of the stomach filled with barium, showing the ulcerated lesion at the pyloric end on the lesser curvature, and the filling defect produced by the extramucosal tumor in the midportion of the stomach.

XUM

no hardness or induration was noted, and no "rectal shelf" could be palpated.

Laboratory data was reported as follows: hemoglobin, 30%; W.B.C., 10,500, with a normal differential. Urine was negative. Plasma proteins, 3.4 gms.%. X-ray of the chest was negative. Barium studies of the stomach were reported as showing an ulcerating lesion of the pylorus and a filling defect in the mid-portion of the stomach (Fig. 1).

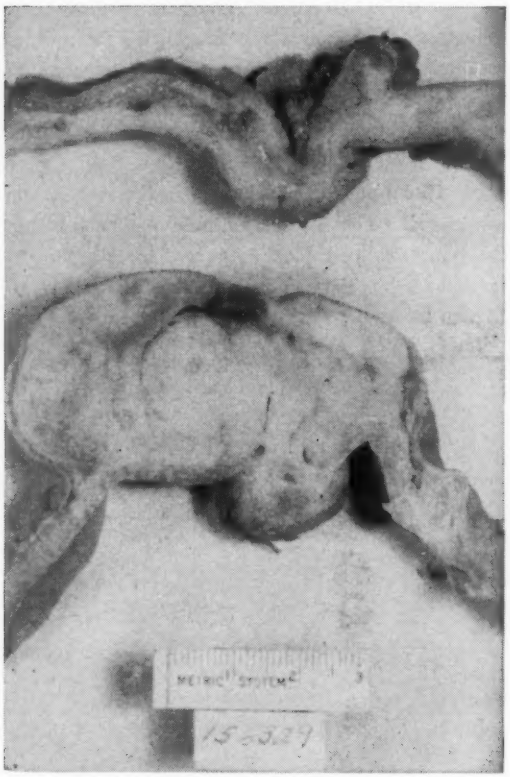

Fig. 2. Sections through the two tumors, the upper showing the carcinoma and the lower the leiomyosarcoma.

The patient was prepared for operation with numerous whole blood transfusions, large amount of protein hydrolysate by mouth, and gastric lavage as indicated. Five days after admission an extensive subtotal gastrectomy was carried out. A retrocolic Polya-Hoffmeister type of anastomosis was carried out and the patient withstood the procedure well; he received 1,000 c.c. of whole blood during the operation. His postoperative course was uneventful and he was discharged March 23, 1952, thirteen days after his admission.

There was nothing specific in the history to even suggest the presence of two lesions. Following operation the patient was seen only twice; the first time six weeks after operation and again four months after his discharge from the hospital. When last seen he was losing weight, and complained of severe constant epigastric burning. He was vomiting at frequent intervals, but he refused hospitalization. According to a letter from his wife he expired August 5, 1952, approximately five months after operation.

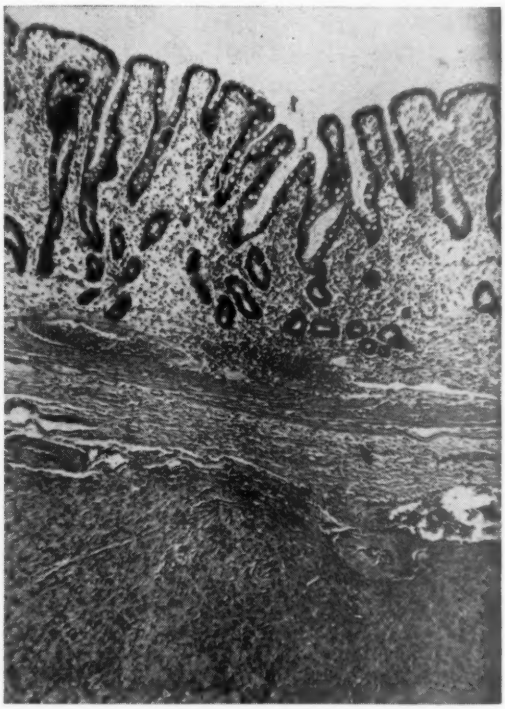

Fig. 3. Low power photomicrograph of the extramucosal tumor demonstrating the continuity of epithelium overlying this.

PATHOLOGY REPORT

The specimen consisted of the major portion of the stomach with the omentum attached which had been transected just below the pylorus and at a level high on the fundus. On the lesser curvature at the pyloric end was an ulcer crater 3 x 3 cm. and 8 mm. in depth. Also on the lesser curvature, 6 cm. proximal to the ulceration described with intervening normal mucosa, was an intramural extramucosal tumor measuring 6 x 5 x 4 cm. The overlying mucosa was normal. (Fig. 2). The attached lymph nodes showed no evidence of involvement. Microscopic examination was reported as typical adeno-

carcinoma and leiomyosarcoma. "There is no evidence of continuity seen in the tumors (Fig. 3),

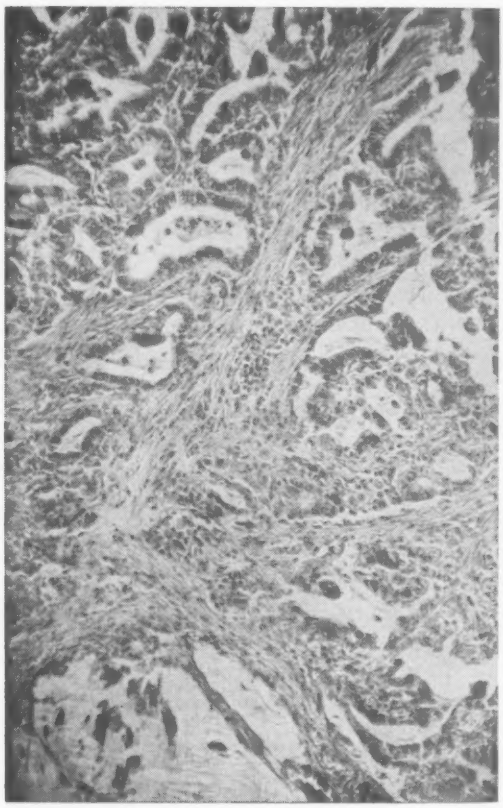

Fig. 4. Photomicrograph of the carcinoma of the stomach. The mucoid character of this tumor is well shown in the inferior aspect of the picture.

they are completely dissimilar in patterns of growth, and there is no reason to feel they are related except by coincidence (Figs. 4 and 5)."

DISCUSSION

Multiple malignancies of the gastro-intestinal tract, while not extremely rare, are very uncommon. The case reported here is one of two tumors—one of epidermal origin, and the other a tumor of mesodermal origin. To see this in any organ is very, very unusual, and, as stated before, this is the first instance of two such diverse tumors arising in the stomach that we have found in the literature. There was nothing to suggest such an unusual occurrence in the pre-operative studies, although X-ray did reveal an ulcerating lesion at the pyloric end of the stomach, and a filling defect in the mid-portion of the stomach. It seems rather obvious that these were two distinct tumors, but, of course, a cellular diagnosis is never possible in X-ray studies. The review

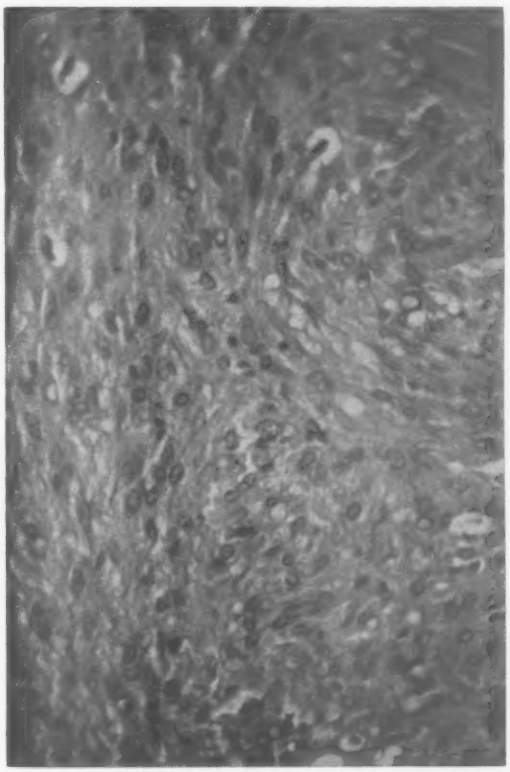

Fig. 5. Photomicrograph of the leiomyosarcoma showing a typical area of this tumor. One mitotic figure is seen in the photograph.

by Warren and Gates is an all-encompassing statistical review of this subject, and those who are interested in a further pursual of multiple malignancies would do well to study this classic.

CONCLUSIONS

An authenticated and proven case of adenocarcinoma and leiomyosarcoma occurring in the same stomach is reported. Because this is the first instance of this which has been commented upon, we felt that it was worthy of reporting.

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Pratt Clinic.

XUM

THE CHOICE OF DRUGS FOR DISTURBED PSYCHIATRIC PATIENTS*

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It is fortunate that I am no expert on drugs and do not intend to discuss them as such, for in that case it would surely be impossible to present much in the way of a comprehensive review of the many drugs available for use, their advantages and disadvantages, their methods of administration, etc., in the short time allotted. No doubt, because of my pharmacological deficiencies, I have decided that the gentleman who selected this subject intended this to be not primarily a discussion of various drugs but rather a brief informal presentation of attitudes toward them and their use in controlling disturbed patients—a sort of "to give or not to give" proposition.

The term disturbed psychiatric patient is here considered to mean—not merely a worried person—but a person who is unable to behave in accordance with the standards of those about him, and, furthermore, who is so noisy, so uncontrollable, so over-active, so physically threatening, so violent that the people about him are disturbed. In this category we may find representatives from almost all diagnostic groups —the fighting drunk, the excited catatonic, the maniacal manic, the homicidal paranoid, the enraged psychopath, the agitated depressed, the hysterical neurotic, the delirious patient, the psychotic alcoholic, and many others. To discuss all drugs or medication that would be useful in treating such a heterogeneous group of disturbed patients is out of the question here. Consequently, I have again presumed to assume that the term "drugs" means sedatives or narcotics, and that the question is—do we "knock them out" with something, and, if so, what is the weapon of choice?

That depends on where you are, what you're dealing with, what you're trying to do, and what your facilities are. Disturbed patients all seem to be either in a psychiatric hospital, in a general hospital or else somebody is trying to get them into a hospital. In each situation the problem is different, and the facilities are different.

When I attempt to formulate my attitude toward the use of drugs to control disturbed patients, I am reminded of Calvin Coolidge's comments when, upon returning from church, his wife asked what was the subject of the sermon—"Sin", replied Coolidge. "What did he say about it?" persisted Mrs. Coolidge. "He was agin it" answered Coolidge in his usual uncircumstantial way.

This is not meant to imply that drugs should never be used to quiet disturbed patients. The physician seeing an upset person in the home is expected to *do something*, and, indeed, the safety of others often demands that the patient be literally put to sleep with a strong sedative. In such cases he must, of course, do the best he can with what he has available. Since excited patients often require large amounts of sedation to be put to sleep, there is nearly always some risk involved—respiratory failure is always a possibility and stimulants such as Metrazol, Coramine, caffeine should be available. In such cases, whatever knowledge the physician has of the patient's physical condition should be utilized in his choice of drugs. For example, the short-acting barbiturates are largely destroyed in the liver; consequently, their use should be avoided in the presence of extensive liver damage. Morphine also is contraindicated in the presence of liver damage.

Moreover, alcohol and barbiturates apparently have a synergistic effect. Therefore, it is dangerous to give an acutely intoxicated person barbiturates, and extremely dangerous to give him intravenous barbiturates. During the last year we have had the unhappy experience of being called back by a family physician who one hour before had reserved a room for an alcoholic patient, saying that he would give him something to quiet him so that he could make the trip. He called back to say that the patient had expired immediately after being given an I.V. barbiturate. It seems that if a disturbed patient in the home must be given drugs to control him, it should be for the purpose of facilitating his transfer to a hospital—not with the idea that he will clear up if he can get a few hours rest. This may work with some patients—they are the ones that we as psychiatrists don't see, of course. Here at Westbrook

*Read before the Spring Meeting of the Neuropsychiatric Society of Virginia, held at Westbrook Sanatorium in Richmond, April 1, 1953.

we repeatedly admit patients who were sedated at home or in general hospitals for days in an effort to control their disturbed behavior. They have almost invariably been made worse by the drug. We like to get these patients because they almost invariably improve—sometimes dramatically—when the drug is withdrawn. The home use of drugs to control disturbed patients is sometimes necessary but is hazardous, may increase and prolong the existing disturbed state and should be done only if necessary. In the general hospital, as in the home, facilities are not usually ideal for the care of noisy, irrational people. Here, again, drugs may have to be given as an emergency measure. It might be pointed out that an unafraid and understanding nurse may be more effective than all the drugs in the pharmacopoeia.

Opinions vary as to the advisability of controlling disturbed behavior in the psychiatric hospital by the use of drugs. My experience has been that the use of drugs is less effective and more dangerous than other methods. Continuous narcosis was effective with certain acutely disturbed combat casualties, but I have not been impressed by its general usefulness with disturbed civilian patients. Even with good nursing care there is the danger of pneumonia or aspiration of vomitus into the lungs when it is used. Also the sedated patient is apt to fall and injure himself. Here we practically never sedate disturbed patients except for mild bed-time sedation for which we prefer one of the long acting barbiturates such as Ipral, Alurate or phenobarbital. These seem less apt to confuse the patient further, or to excite him. Elderly people with arterio-sclerotic or senile brain changes seem to nearly always be made worse by sedation.

As I mentioned above, we believe that nearly all disturbed patients can be handled more satisfactorily without relying on sedative drugs. As I understand the limitations of my subject it would not be appropriate to go into a discussion of other methods of dealing with these patients though a negative attitude toward drug control of patients seems to demand that something better be offered. However, on this occasion mention of EST, restraint, segregation of the disturbed patient, continuous baths, hydrotherapy, etc. is not necessary since this group is thoroughly familiar with their use. We are continually being impressed by the fact that the disturbed patient can often understand more than he seems to be able to understand, and that if approached by physicians, nurses and attendants with an attitude of sympathy, kindness, and firmness—without fear and anxiety—coupled with a genuine desire to understand him and to cooperate with him as far as possible he will be able to respond surprisingly well. On the other hand, the drugged patient seems to become more confused, frightened and bewildered. It is, of course, freely admitted that it is much easier to withhold drugs in the psychiatric hospital than elsewhere, but surely this method of approach can be effective at least to a limited extent in the home or in the general hospital.

To summarize, the actual need to control the activity of the disturbed psychiatric patient is greater in the home and in the general hospital than in the psychiatric hospital where they can often be handled with greater safety and effectiveness by using other measures. Patients are often sedated unnecessarily to relieve the anxiety of family and others in attendance. In many cases the use of drugs is dangerous to life and in addition it often injures the patient's progress or makes him worse. A kind, firm, understanding approach is effective in psychiatric hospitals and could be adapted to other situations.

In conclusion, it is suggested that psychiatrists can do much through their contacts with other physicians, medical students and nurses to broaden their understanding of and improve their treatment of disturbed psychiatric patients so that they may be treated more safely and more effectively without resorting to potentially harmful drugs.

XUM

INFANT MORTALITY IN RICHMOND

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and
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In order to estimate Richmond's present status in relation to infant morbidity and mortality a study of the available statistics on file in the city health department was made. Most recent figures thought to be of value to those interested in present rates and causes of infant deaths were presented at the regular fetal and neonatal mortality conference at the Medical College of Virginia. Fetal mortality comparisons were not made because of the difference in legal requirements and in completeness of reporting from state to state.

Richmond's general infant mortality rate exclusive of fetal deaths was first compared with other large cities. Resident figures for 1949, the latest available data for comparative studies, were used. Among the 92 cities in the United States of over 100,000 population, Richmond ranks 85 with a mortality rate of 36.9 per 1,000 live births. Only the cities of San Antonio, Knoxville, Atlanta, Charlotte, Norfolk and Scranton have higher rates. San Antonio had the highest rate of 45.7. Seventy-nine cities had a rate of lower than 35. Sixty had a rate lower than 25, and Portland, Oregon, with a rate of 19.9 was the lowest.

All of the cities with higher rates except one were southern cities. It is recognized that the racial composition of the population in these cities is an important factor. The white rate alone, however, would still make Richmond rank 76 of the 92 cities while the colored rate would make it rank 70.

Table I shows, by race, the rates for twelve cities. These were chosen by starting with the lowest total rate and taking approximately every tenth city and its rate. As you can observe, Richmond has an overall rate of 36.9, with a white rate of 29.2 and a Negro rate of 49.5.

Table II lists the cities which have higher rates than Richmond and seven cities that are generally somewhat similar to Richmond as to population factors but which have lower rates. New York City is included in this group. In spite of the slums, Puerto Ricans, and Negro Harlem, it has managed through concerted effort to cut its total infant mortality rate to 25.4.

TABLE I
INFANT MORTALITY RATES FOR SELECTED CITIES OF THE UNITED STATES
1949*

City	*Total*	*White*	*Non-white*
Portland, O.	19.9	19.6	27.6
Kansas City, Kansas	23.0	22.8	23.8
Dallas, Texas	24.7	22.3	38.9
Los Angeles	25.7	24.5	32.1
Syracuse	27.1	27.6	11.6
Cincinnati	28.2	25	42.6
Chicago	28.4	25.8	39.3
Wichita	30.0	29.5	39.7
Tampa	31.4	28.7	42.9
Oklahoma	34.2	33.5	38.9
Richmond	36.9	29.3	49.5
San Antonio	45.7	46.4	34.9

*Selected from range of every tenth of the 92 cities having over 100,000 population.

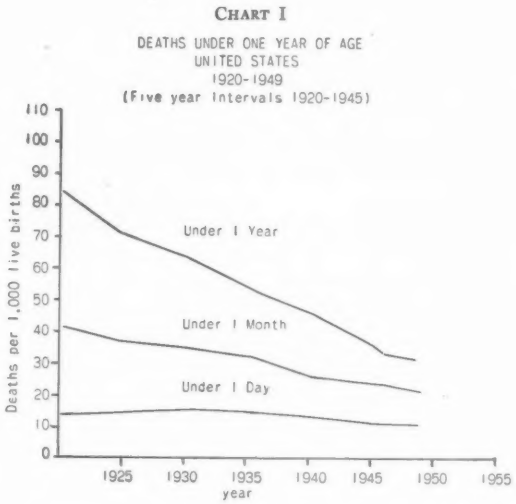
TABLE II
INFANT MORTALITY RATES FOR CITIES MOST COMPARABLE TO RICHMOND AND THOSE CITIES WITH HIGHER RATES
1949

City	*Total*	*White*	*Non-white*
New York City	25.4	23.4	37.6
Cincinnati	28.2	25.3	42.6
Washington	29.1	28.1	30.4
Baltimore	31.3	26.7	41.1
Memphis	35.1	27.2	45.4
Birmingham	35.1	26.7	45.6
Louisville	35.4	32.4	52.2
Richmond	36.9	29.3	49.5
Scranton	37.5	37.3	66.7
Norfolk	38.2	30.3	53.7
Chattanooga	38.2	33.4	49.6
Charlotte	38.9	25.0	70.
Atlanta	39.0	28.6	54.1
Knoxville	41.2	39.7	49.3
San Antonio	45.7	46.4	34.9

Neonatal mortality year after year constitutes a higher proportion of the total infant mortality. Chart I shows the death rate per 1,000 live births in the United States under one year of age, under one month, and under one day from 1920 to 1949. For

the United States as a whole, infant mortality has shown a marked decrease but the neonatal mortality has shown no such change.

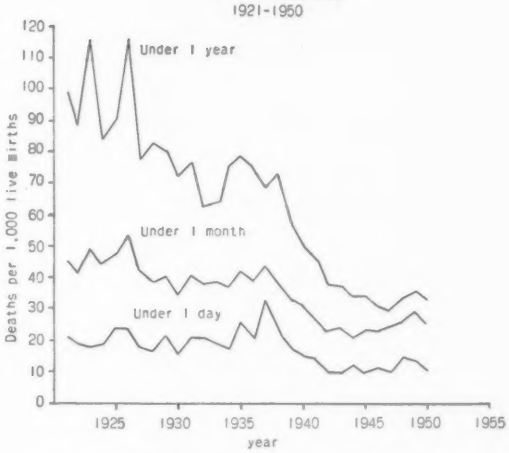
CHART I



For comparison, Charts II and III show the death rates under one year of age and under one month for Virginia and for Richmond. The rate for 1949 was 31.5 for under one year in the United States and 38.2 in Virginia. For under one month it was 21.4 in the United States and 25.6 in Virginia. The neonatal rate in Richmond for 1949 was 29 as compared with 21.4 in the United States and 25.6 in Virginia.

CHART II

CHART III

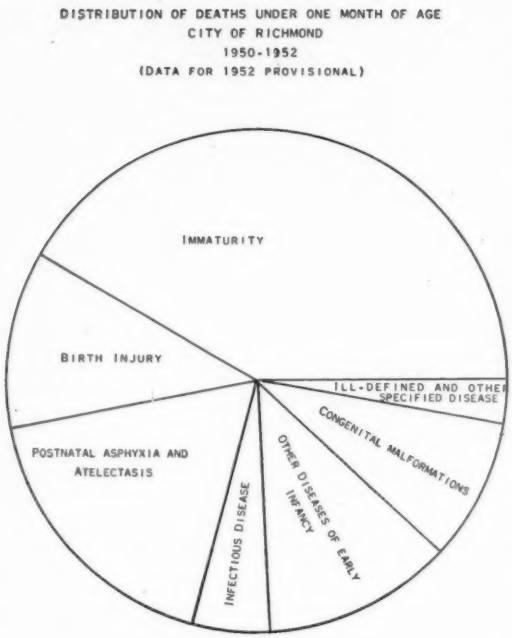


Since race is an important factor in neonatal mortality, Chart IV was made to show the neonatal death rate, by race, in Richmond from 1921 to 1951. The neonatal death rate in Richmond had decreased from 40 in 1921 to 25 in 1951 for the white race and from 58 in 1921 to 35.8 in 1951 for the Negro race.

CHART IV

What are the causes of these neonatal and fetal deaths? They have varied a great deal from year to year. Chart V shows the percentage distribution of the causes of death for 1950-1952. This gives

CHART V



the major cause as immaturity unqualified with 43.7%; postnatal asphyxia and atelectasis, 6.9%; birth injuries, 10.0%; congenital malformation 9%; other diseases of early infancy 10.7%; infectious disease 5.9%; ill defined and other specified diseases 3.6%. The immaturity mentioned includes only immaturity unqualified as the primary cause of death. It does not include instances in which birth injury or some other cause is shown as the primary cause with immaturity. In Dr. Potter's studies in Chicago for 1936-1949, she did not list immaturity unqualified in any instance. Briefly her chief causes were abnormal pulmonary ventilation 43.8%; malformations 15.4%; birth injury 15.1%; infections 14.3%; blood dyscrasias 5.1%; anoxia 4.1%; and miscellaneous 1.4%. Her figures are not exactly comparable because she qualifies every case of prematurity by giving it a specified cause.

Table III gives us the births, stillbirths and infant deaths for the city of Richmond for 1952 by individual hospital. This is based on provisional data because final reports are not available at this time. In comparing the mortality rates, only resident births are given. Because Richmond is a medical center

TABLE III

BIRTHS, STILLBIRTHS, AND INFANT DEATHS BY HOSPITAL IN WHICH BIRTH OCCURRED

CITY OF RICHMOND

1952*

HOSPITAL	Total Recorded Births (Live)	Total Resident Births (Live)	Total Resident*** Live Births Premature	% Resident Births Premature	Resident Stillbirths	Total Resident Deaths under 1 yr. of age	Total Resident Deaths under 28 days of age	Resident Deaths under 28 days of age associated with prematurity***	DISPOSITION**		
									Autopsy or Anat. Board	Buried no Autopsy	Unspec. as to Autopsy
TOTAL	9,662	4,669	482	10.3	113	170	116	83	74	20	22
Community	297	200	18	9.0	5	11	10	7	6	3	1
Grace	514	242	22	9.1	6	7	7	3	1	2	4
Johnston-Willis	1,332	373	28	7.5	10	7	4	3	2	1	1
M. C. V.	2,027	768	62	8.1	11	25	15	14	13	2	
Retreat for the Sick	896	424	43	10.1	7	8	8	7	5	1	2
St. Luke	816	307	23	7.5	5	12	12	7	4	2	6
St. Philip & Dooley	2,683	1,821	240	13.2	50	74	53	39	42	6	5
Sheltering Arms	316	167	12	7.2	1	0	0	0	0	0	0
Stuart Circle	609	243	24	9.9	5	5	4	2	1	1	2
Evangeline Booth	42	0	0	--	-	0	0	0	0	0	0
Not in Hospital	130	124	10	8.1	8	21	3	1	0	2	1
Unknown					5						

Per cent of resident births occurring in hospital—97.4%

* Provisional data. Resident data includes births to or deaths of residents occurring in the city of Richmond.

** Data taken from copies of death certificates on file in the City Health Department on persons under 28 days of age at time of death.

***Includes those weighing 5½ lbs. or less at birth, stated to be premature, or those for which the cause of death is associated with prematurity.

it would not be fair to include all the complicated deliveries that have occurred but were actually non-resident mothers. There were over 9,000 births recorded in Richmond in 1952 but only about 4,600 of them were resident births.

This year the immature births, by weight, comprised 10.3 per cent of total resident births for the city. Resident stillbirths were 113 or 2.3% of the resident live births. Total resident deaths under 28 days of age numbered almost the same as stillbirths. Ninety of the 113 stillbirths and 74 of the neonatal deaths went to the Anatomical Board or were autopsied. It was impossible to determine from the death certificates on file in the city health department how many of those who went to the Anatomical Board had postmortem examinations, so these two items were lumped together. Results from each hospital for the year 1952 show St. Philip Hospital has the highest per cent of premature births with 13.2% resident live births premature. Retreat for the Sick has the next highest with 10.1%.

This table also shows that 97.4% of the resident births in Richmond in 1952 occurred in the hospital. For the year 1949, at which time the mortality rates for Richmond were given in the first table, Richmond had 98.5% births delivered in hospitals as compared with 86.7% for the United States and 71.2% for Virginia.

CONCLUSIONS

No attempt to draw any conclusions from these figures can be made. They do, however, indicate that Richmond's infant mortality rate is still among the highest in the nation and that a high per cent of the deaths of these infants occur under 28 days of age. Immaturity is listed as the principal cause of neonatal death in Richmond and approximately 10% of the births in Richmond in 1952 were premature. The per cent of hospital deliveries in Richmond is above average, which should make the high mortality even more significant.

SUMMARY

The fetal and neonatal mortality data available in the Division of Vital Statistics of the Richmond Health Department have been studied. These were presented in three ways:

1. Brief discussion of tables comparing Richmond's infant mortality with that of other cities of 100,000 population and over.

2. Charts showing neonatal and infant mortality for the nation, State, and city. An additional chart showing the primary causes of neonatal death in the city was included.

3. A table showing the infant mortality and incidence of prematurity by hospitals in the city of Richmond.

The following facts were pointed out to indicate that Richmond needs further study of its infant mortality:

1. Richmond has one of the highest infant mortality rates in the nation.
2. Neonatal death due to prematurity accounts for a high percentage of the infant mortality.
3. The fact that almost all of the deliveries in Richmond occur in hospitals makes this high mortality rate even more significant.

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SOLITARY DIVERTICULITIS OF THE CECUM SIMULATING ACUTE APPENDICITIS

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Diverticula are a frequent occurrence in the gastrointestinal tract; therefore, any differential diagnosis of an "acute abdomen" should include diverticulitis. In the younger age group, Meckel's diverticulitis is always considered, and, even in the presence of an inflamed appendix, unless the appendiceal pathology is prohibitive, should routinely be sought. In about 5% of such patients a diverticulum will be encountered. In the older age group, those over 40, diverticula of the large bowel are found with approximately the same frequency. When a patient of this age presents acute abdominal symptomatology, with localization on the left side ("left-sided appendicitis"), diverticulitis is strongly suspected. They are most common in the distal half of the colon, 75% said to occur in the sigmoid. Hence, diverticulitis is rarely considered on the right side, and is passed over lightly, or ignored, in the literature.

Diverticula of the colon may be classified as "true" or as "false". A "true" diverticulum includes in its wall all the usual coats of the bowel wall—the mucosa, submucosa, muscularis, and serosa,—and is usually solitary. The wall of the "false" type is lacking in muscularis; this type is usually multiple[8,18]. The "true" type is usually thought of as congenital, due to the incomplete luminal fusion of a segment of the primitive cecum with the remainder of the bowel during the period of vacuolization of the primitive entoderm; or it may be the "retention in some form of the appendix which develops early in embryological life but normally disappears before the true appendix appears"[12]. Traction diverticula, usually "true", but not necessarily congenital, may also appear in the colon. Dorling[9] has reported that they may be the result of scar tissue contracture in the mesentery during the stage of calcification of tuberculous lymph nodes. Greenfelder and Hilder[12] reported a case in which pericecal adhesions tented the bowel wall so as to form a diverticulum, correctable by simple adhesolysis. Wilson[2] feels that "traction exerted on the appendices epiploicae, mesentery, or omentum, with or without adhesions, may result in diverticulum formation." In the first instance, the diverticulum will be expected to be enveloped by an appendix epiploica.

"False" diverticula are usually acquired or traumatic, although the defect that leads to diverticulation may be congenital. The most commonly mentioned factors for these are an inherent weakness in the wall due to the ageing process, congenital weakness of the wall at the sites of vascular perforation of the muscularis, obesity, and atrophy of the fat along the nutrient vasa. Herniation may occur at the sites of vascular perforation if there is some minor added factor, as increased intraluminal pressure secondary to constipation[24] or traction on an appendix epiploica[2]. This would doubly account for the frequent location of the lesion along the borders of the longitudinal bands.

Rupture of an intramural abscess into the lumen of the cecum, as occurs after operative inversion of the appendiceal stump, may cause a weak spot in the muscularis through which a mucosal herniation may occur[12]. Bunts[4] felt that relaxation of the purse-string suture, followed by eversion of the inverted appendiceal stump, might lead to "false" diverticulum formation. This type of diverticulum would probably better be classified as a residual appendiceal stump, and infection in it as a stump appendicitis, rather than as diverticulitis. Greenfelder and Hilder[12] feel that the purse-string suture destroys the circular muscle fibers about the base of the appendix leading to a weakened area through which herniation may occur.

British authors feel that "false" diverticula of the cecum are the end result of ulcerative disease of the cecum rather than of mucosal herniation. They point out the occurrence of diverticula of the duodenum late in the course of peptic duodenal ulceration in support of their theory[9,10,26].

Diverticula of the large bowel, first mentioned in 1853 by Virchow[6], were described by Wilks in 1859 as "small pouches sometimes met with in the colon" which "often exist in great numbers, and are gen-

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Approved for publication with the understanding "The opinions contained in this article are the private views of the author and are not necessarily to be construed as official or reflecting the views of the Navy Department or the naval service at large."

erally not larger than a grape-filled with fecal matter"[15]. They may measure 1 mm. to 2 cm. in diameter, unless they become inflamed, in which case they may reach or exceed the size of an orange. They have a small neck which opens into a large, smooth-walled, feces-filled lumen. The feces in these pouches tends to be emptied poorly, becomes inspissated, and forms a fecalith which blocks drainage, leading to infection. The majority of patients with diverticula are asymptomatic, or have minimal symptoms requiring no treatment. However, 15% develop acute or chronic diverticulitis. Of these, 20% will require surgical intervention.

The actual incidence of diverticula of the cecum is not mentioned in the literature, but it is said to be rare. Inflammation of this "rare" lesion must, therefore, be a medical curiosity. However, there have been 137 patients with this disease reported in the British and American literature to date. In the analysis of these cases, it is found that 19% have been subjected to laparotomy without a preoperative diagnosis, 64% have been operated on with a preoperative diagnosis of some form of appendiceal pathology, and in only 3.6% has the correct diagnosis been mentioned before operation[1-25].

At operation, when the mass of inflammatory tissue has been seen and felt, carcinoma has been diagnosed in a number of cases, and these have been subjected to unnecessary radical resection without preparation, with an 11% mortality rate. In addition, 24 patients have been subjected to right hemicolectomy for this disease, because the correct diagnosis was not suspected, or because the lesion was not locally resectable. Despite the benign nature of the pathology, a few cases may require major resection because of their location[16].

TABLE I*

1. Age of Patients	average 38 years range — 10 to 72 years
2. Symptoms	
a. Pain in the RLQ	95%
b. Nausea	30%
c. Anorexia	24%
d. Constipation	16%
e. Vomiting	15%
f. Diarrhea	11%
g. Chills and Fever	6%
3. Signs	
a. Tenderness	86%
b. Spasm	48%
c. Rebound Tenderness	36%
d. Palpable mass	23%
e. Rectal Tenderness	16%
f. Leukocytosis	average 13,087 range — 6,100 to 22,950

*Compiled from Cases Reported in the Literature.

Patients with cecal diverticulitis fall into an older age group than those with acute appendicitis, but as shown in Table I, the clinical picture is otherwise indistinguishable from that of appendicitis. The diagnosis is, therefore, made at the operating table.

In the age group over 40, the presence of a mass lesion in the cecum must first be thought of as carcinoma, rather than as diverticulitis. Prognostically, however, the differentiation is of great importance, and the treatment of the two is vastly different. Carcinoma may present itself in three different ways. First of these is the cauliflower mass which projects itself into the lumen of the cecum. It may be very large in size before it begins to show metastases. The second variety of cecal malignancy tends to grow by direct extension along the bowel wall or through it. The third and most malignant grows rapidly through the wall, presenting as a perforated mass with much glandular metastasis[19].

Other diseases which must be considered in the differential diagnosis of diverticulitis of the cecum include tuberculosis and actinomycosis, and non-specific granuloma and non-specific ulceration of the cecum.

Tuberculosis usually manifests itself by small subserous tubercles involving the cecum and terminal ileum, with large caseous lymph nodes and abundant adhesions. Actinomycosis begins in the cecum and appendix, leads to a generalized thickening of the bowel wall with, not infrequently, a draining abdominal sinus, discharging characteristic sulfur granules.

Non-specific granulomata of the cecum usually involve the terminal ileum as well, show a thickening of the wall, with a granular appearance of the serosa, marked mesenteric edema, and mesenteric adenitis. Non-specific ulceration of the cecal wall is as rare as is diverticulitis, and in the British literature is considered to be an early phase of the same disease.

Acute diverticulitis presents itself as an inflammatory mass localized to a relatively small portion of the cecal circumference from which it protrudes. It may be found within one of the appendices epiploicae, and is usually found bordering one of the longitudinal muscular bands of the colon. Palpation of

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the mass through the opposite wall of the cecum will usually reveal a small opening into it, though this may be masked by the presence of a fecalith which frequently fills the diverticular lumen. This fecalith will be palpable through the wall of the lesion as a round, hard, smooth mass. Mesenteric lymphadenoid involvement may be present, but the nodes will be inflammatory rather than neoplastic or caseous.

CASE REPORTS

Case 1: J.K.M., a 31 year old man, was admitted to my service on 9-13-52, with a diagnosis by his referring physician of acute appendicitis. He gave a 2 day history of constant generalized abdominal "gas pains", accompanied by a marked increase in belching. On the morning of admission, the pain suddenly shifted to the right lower quadrant and became severe enough to double him up. He noticed no anorexia, nausea, vomiting, or other gastrointestinal symptoms. On examination, the abdomen was obese and soft, with tenderness in the right lower quadrant, most marked at McBurney's point. There was slight guarding and rebound tenderness, but no spasm. Rectal tenderness was absent. The leukocyte count was 15,000 with 77% neutrophils, and 5% band forms. A diagnosis of acute appendicitis was made and the patient was prepared for surgery.

At operation, through a routine transverse appendectomy incision, the appendix was found to be grossly normal. At the level of the ileocecal valve on the anteromedial border of the cecum bordering the anterior longitudinal muscular band, there was found a 4 cm. mass of inflamed appendix epiploica, presenting on palpation a 3 cm. firm, smooth, hot mass within it. On examination of the mass from within the cecal lumen, a 3 to 4 mm. orifice was palpable, entering the mass. A diagnosis of acute diverticulitis was made, and the mass was resected, removing a 2 cm. circular plug of cecal wall about the base of the diverticulum. The wall of the cecum was closed in layers with 00 chronic catgut and 40 cotton. Routine appendectomy was performed, after which the abdominal wall was closed in layers. The patient made an uneventful recovery. Barium enema on the tenth post-operative day failed to reveal other large bowel pathology. Pathological study of the specimen revealed acute inflammatory reaction in a "false" diverticulum of the cecum, of the type commonly seen in the sigmoid.

Here, the clinical picture was that of acute appendicitis, for which operative treatment was indicated and undertaken. On discovery of the true cause of the symptomatology, the simplest procedure for the removal of the offender was felt best, and was performed. The patient was treated post-operatively as for a simple appendectomy, and made an uneventful recovery.

The location of the lesion along the border of a longitudinal band, "false" in type, enveloped in an appendix epiploica, would seem to indicate this lesion to be the result of mucosal herniation through the muscularis at the site of vascular perforation[24] in combination with traction on an appendix epiploica[2].

Case 2: R.M., a 19 year old man, was admitted to a hospital in the USA on 7-5-52 with an 8 hour history of pain in the right lower quadrant without radiation. He had not been nauseated, but had noticed anorexia for five or six hours preceding the pain. He had had three normal bowel movements on the morning of admission. Examination showed the abdomen to be soft with point tenderness in the right lower quadrant but with no rebound tenderness, spasm, or palpable mass. There was rectal tenderness high on the right. The leukocyte count was 12,800, with 72% neutrophils, and 7% band forms. The patient was not felt to have a surgical disease of the abdomen, but was admitted for observation. Next day, there was point tenderness at McBurney's point and muscular spasm in that region. A diagnosis of acute appendicitis was made, and the patient was prepared for surgery.

At operation, a normal appendix was found, but there was encountered a "large inflammatory mass supermedially to the base of the appendix on the anteromedial border of the cecum", felt to be intramural. The opinion was that this was an acutely inflamed diverticulum of the cecum but that it should not be resected. Routine appendectomy was performed, and a cecostomy was done. He was placed on routine antibiotics. The cecostomy functioned well for three weeks, was discontinued and closed spontaneously in five weeks. Barium enema on the 17th day post-operatively showed an intramural mass on the medial aspect of the cecum. Two weeks later, this was not demonstrable.

The patient was returned to duty and was assigned to duty overseas, where he served as a Medical aid man with the Marines. Under these con-

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ditions, the operative wound began to drain and became tender, with occasional episodes of moderately severe right lower quadrant pain, cramping in nature. Two weeks before admission to the Marine Division Hospital, he had removed a suture from the floor of the sinus tract, and the wound had healed rapidly, though the pain had continued to recur once or twice weekly. Examination on admission revealed a tender, freely movable, walnut-sized mass medial to the cecum which was palpable filled with gas at the time of examination.

The original clinical picture was questionable in this case, but, under observation, the clinicians felt that appendicitis could not be ruled out. With the increase in severity of symptomatology, operative therapy was felt necessary. The correct diagnosis was suspected when the lesion was visualized, and a conservative regimen was decided upon.

Six months later, the patient was again admitted to a hospital for his symptoms. He still had the offending lesion with him. Operative treatment, with removal of the diverticulum, will be necessary for this man, although a reasonable trial of the conservative regimen originally begun will be continued for a time.

The treatment of this entity should consist of the simplest method of extirpation feasible in the individual case. Unlike sigmoid diverticula, those of the cecum occur as solitary lesions; hence, local resection is usually curative. Many methods of removal have been advocated. The simplest is inversion of the diverticulum through a purse-string suture. The tip of the pouch should be perforated to provide adequate drainage during the period of sloughing, or the major portion of the sac may be removed and the cuff only be inverted. In those instances where there is marked induration and friability of the diverticular wall, this cannot be done with safety.

The most common procedure is the complete removal of the pouch along with a small disc of the surrounding cecal wall, followed by linear closure of the cecum. This technique is usually adequate, and can be performed with ease in most cases. Postoperatively, these patients progress well, as if after appendectomy alone.

In occasional instances, resection of the cecum may be necessary, due to the extensive involvement of that viscus by inflammation and diverticulo-cecal adhesions. However, if careful dissection is undertaken, this should not become a necessity. This procedure should be reserved for those cases in which simple diverticulectomy, because of the location of the lesion, would embarrass the cecal blood supply.

Right hemicolectomy, though it has been performed in a large number of the reported cases of diverticulitis, has been done in most instances in those cases in which the diagnosis of carcinoma has been made. In only one case has it been done despite a diagnosis of diverticulitis. In that case, the operator felt that local excision of the lesion would embarrass the blood supply of the cecum and ascending colon[19]. A sidetracking procedure, such as ileo-transverse colostomy, has been done[1,19] and seems to be a far safer measure than hemicolectomy in these unprepared patients. Right hemicolectomy can then be deferred till the patient has been prepared.

SUMMARY

Diverticulitis is a relatively rare disease of the cecum which may be congenital in origin, or may result from herniation of the mucosa through the muscularis.

The clinical picture is indistinguishable from that of acute appendicitis. At operation, an inflammatory mass of the cecum is encountered which has frequently been confused with malignancy, resulting in major resection of the large bowel without preparation. If this entity had been considered, and the cecum examined with it in mind, these procedures, with their increased mortality risk, could have been avoided.

Two additional cases of diverticulitis of the cecum have been reported.

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NOTE. Dr. Kirk was released from the Navy at the end of June 1953 and located in Roanoke, Virginia. He is at present at 807 - 11½ Street, S.W., Rochester, Minn.

Music Proved a Therapeutic Aid.

"In acutely ill patients music often produces effects of sedation and reassurance, while in chronically ill patients music is able to divert the mind during long periods of convalescence and enforced rest," it was stated editorially in the September 19, J.A.M.A.

"Patients with tuberculosis, rheumatic fever, malignant tumors, neurological diseases, orthopedic disorders and many other chronic ailments frequently discover that music helps while away tedious hours and removes flights of the imagination to more pleasant and relaxing spheres of thought. This can be accomplished with the aid of background music, records, books, musical instruments and singing.

"Since almost all children enjoy music that is tuneful, accompanied by simple words, and that relates a story, music is especially applicable as a therapeutic modality for the juvenile audience. It is useful as a vehicle accompanying games, and it also provides a pleasant distraction from the disturbing cries that invade pediatric wards of hospitals. It is of particular value to chronically ill children who are required to stay in bed for long periods of time."

Music is a useful adjunct to physical therapy, the editorial pointed out. Mentally defective persons are more easily handled when soothing, rhythmic music is performed, and it has been found in dentistry that music allays anxiety, raises the pain threshold, and improves the doctor-patient relationship. Some obstetricians use music to allay anxiety and raise the pain threshold during arduous hours spent by patients in the labor room.

It also has been observed, the editorial added, that music in the operating room serves as a beneficial adjunct to the administration of local, regional, or spinal anesthesia, and that it diminishes apprehension in patients.

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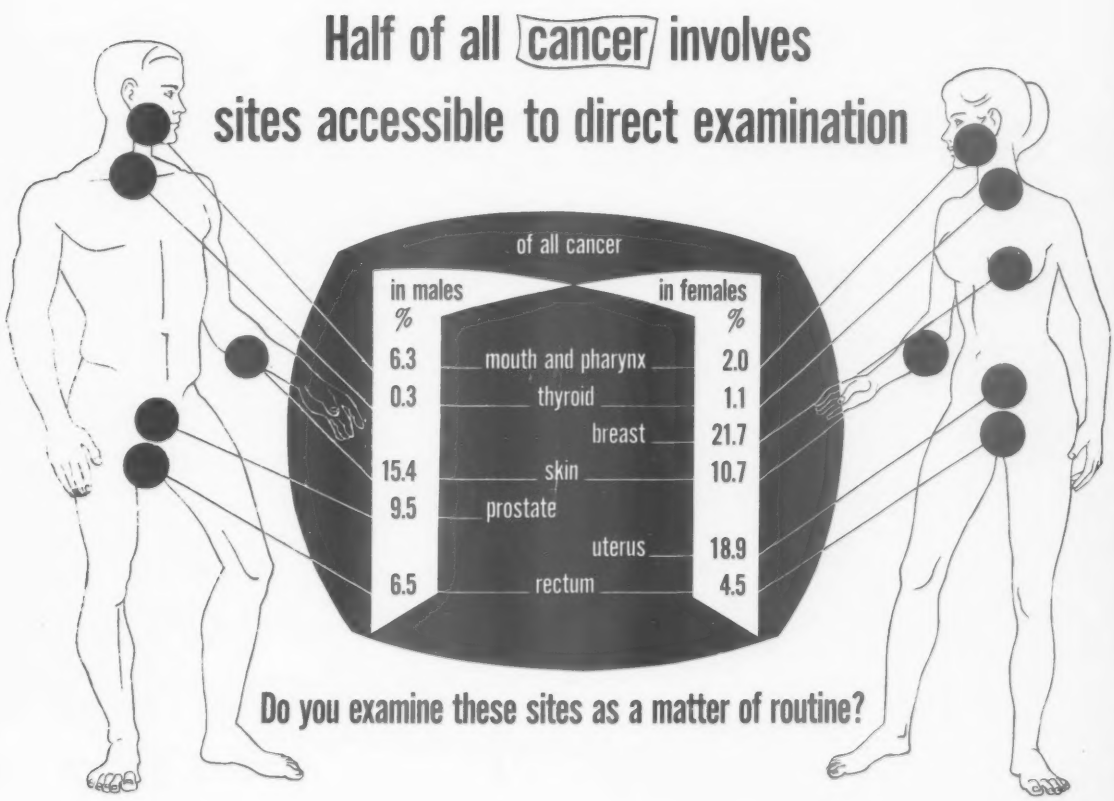
Medical Society of Virginia Cancer Committee

Chairman, George Cooper, Jr., M. D.

Albemarle Hotel Building, Charlottesville, Va.

Reprints of this and preceding Bulletins may be obtained from this office

November 1, 1953



From the U. S. Dept. of HEALTH, EDUCATION, and WELFARE
Public Health Service, National Cancer Institute

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MENTAL HEALTH

Joseph E. Barrett, M.D.
Commissioner, Department Mental Hygiene and Hospitals

Mental Deficiency As A Community Problem*

Although much has been written about the problem of the mentally deficient, few physicians and even fewer pedagogues are apparently aware of the extent and scope of this community problem. Feeble-mindedness is undoubtedly far more widespread than is commonly realized by either group. There are probably no less than 500,000 individuals in this country alone who have definitely been determined to be feeble-minded[1]. It is estimated that an equal number, as yet unrecognized, swell the ranks of those children labeled as "learning" or "behavior problems". When one stops to consider the magnitude of this group, and the obvious futility of attempting to educate them to a level which is beyond their native capacity, the need for an increase in our diagnostic acumen, as well as a reorientation of our educational facilities becomes obvious; in that only a small proportion of defectives belong in permanent institutions, the burden of this responsibility is primarily that of the local community.

Although adequate facilities for the clinical evaluation and psychological testing of these children are seldom available in the average practitioner's office, the state-wide system of Mental Hygiene Clinics now in operation in Virginia is well equipped to assist in the diagnostic evaluation and, in some cases, treatment of such children. The diagnosis and accurate evaluation of these individuals could do much to improve the lot of the borderline cases, as well as materially assisting our school system in the more efficient utilization of its over-taxed facilities. The futility of attempting to introduce a mildly defective individual to the complexities of fifth grade arithmetic is apparent to even the uninitiate, yet this is undoubtedly being done at this very moment. Such an unnecessary expenditure of academic energy serves to promote further maladjustment on the part of the defective individual in that he is called upon to meet an environmental demand which is beyond his native ability. It also becomes a distinct detriment to the education of his more adequately endowed classmates; like the mothers of handicapped children, many teachers will allot an undue proportion of their time and emotional energies to the care of the retarded or deficient child at the expense of children who are far more suitable educational candidates.

*Article prepared by William M. Sheppe, Jr., M.D., Staff Psychiatrist, Portsmouth Area Counseling & Guidance Clinic, Portsmouth, Virginia.

The Diagnosis of Mental Deficiency

Although the intelligence quotient is frequently utilized as a primary point of reference in the diagnosis and classification of mental deficiency, such a diagnostic tool may prove to be quite misleading if relied upon too heavily or to the exclusion of performance tests, projective techniques and the clinical impression of a competent diagnostician. Often, it is impossible to arrive at an adequate diagnosis on the basis of a single set of tests. Lack of cooperation, language or communicatory defects, even simple fear or apprehension may all conspire to invalidate any given test. Even under the best of circumstances, serious errors in the differentiation of *mental retardation* (i.e., emotional interference) from *mental deficiency*, the latter representing an "absolute" or "permanent" defect in contrast to the former, are often encountered. Gardner Murphy[2] has reported the case of a child whose intelligence quotient was initially estimated to be 65 but was eventually found to be 147 some years later! As in somatic medicine, laboratory findings must always be interpreted in light of the *total* clinical picture and the over-all impression of the clinician.

It is of equal importance that the examining physician make some estimate of the individual patient's emotional status with particular attention to his capacity for self-control and the extent of his emotional maturity. Strange as it may seem, many well adjusted and emotionally mature individuals of mild deficiency may function far more productively and adequately (even to the point of becoming a definite community asset), than individuals of normal intelligence whose emotional problems are of such severity as to make them a distinct community liability. It has been estimated that only about 5% of all mental deficients become delinquent or engage in criminal behavior. The presence or absence of any special abilities or "natural gifts", particularly those which

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might be utilized in making the patient self-supporting, are also of considerable importance in estimating a given individual's capacity to meet the demands of his environment and to function, at least to a degree, autonomously.

Although walking and talking are the chief earmarks of the child's development, many normal children will show considerable variation in the age at which these capacities are acquired. In general, however, the average child is able to recognize members of his family, to follow moving objects with his eyes, and to balance his head when sitting up, by the age of six months. At the twelfth month level, he is usually able to say simple words and to sit up or stand without being supported. At the age of eighteen months most children can walk without assistance, climb stairs on all fours and follow simple instructions. By the time he has reached two years of age, he is usually able to put short words into simple phrases and to have developed enough intellectual inquisitiveness and psychomotor coordination to become a distinct menace to any family heirloom which is not securely bolted to the floor or placed well out of his reach. A careful history, with particular reference to the child's early development and growth, may thus afford the examiner considerable insight into the time of onset of the deficiency, its association with trauma, infections processes or dietary deficiencies. A complete family and sociological history also is essential if one is to determine the pathological physiology of the process, be the latter of hereditary, congenital or of acquired origin. A detailed neurological evaluation with recourse to any of the special studies thereby indicated (EEG and pneumoencephalogram in cases of suspected cortical atrophy or cerebral neoplasm, spinal fluid serology where the possibility of juvenile paresis exists, basal metabolism and/or iodine up-take if cretinism or myxedema are diagnostic possibilities, etc.) complete our diagnostic armamentarium.

THE CLASSIFICATION OF MENTAL DEFICIENCY

True mental deficients are usually classified into one of three sub-groups, the specific diagnosis depending primarily on the degree of intellectual deficiency or the mental age at which the patient is able to function. Recent objections have been raised to the terms "idiot", "imbecile", and "moron" in that the latter are primarily legal terms, comparable to "insanity", with little real meaning in clinical psychiatry. They have the further fault of being based upon psychological testing alone. In the latest revision of psychiatric nomenclature prepared by the Committee on Nomenclature and Statistics of the American Psychiatric Association, degree is indicated by the terms "mild", "moderate", and "severe". No I.Q. limit has been set for these qualifying terms as it is believed that such an arbitrary usage of a variable measure is not justifiable in clinical work. In general, *mild* refers to functional (vocational) impairment as would be expected with I.Q.'s of approximately 70 to 85. *Moderate* is used for functional impairment requiring special training and guidance, such as would be expected with I.Q.'s of about 50 to 70 (mental age of approximately seven to twelve years). This group therefore roughly corresponds to the sub-group previously designated as moron. With careful and patient training, these individuals may be taught to perform many manual tasks quite efficiently, but are generally noted for their inability to reason on the basis of experience or to grasp new material readily. It has been estimated that only 10% of all defectives require permanent institutional care if adequate rehabilitative facilities are available. *Severe* mental deficiency refers to functional impairment requiring custodial or complete protective care as would be expected with I.Q.'s below 50 (mental age of seven years or less). Defectives who fall within this group are, in general, far better off in an institution or colony with children of their own mental age. Not only is the average home poorly equipped to supervise them and to develop their limited capacities to an optimal degree, but their continuing presence in a home with normal siblings may be extremely detrimental.

MANAGEMENT

Although the true mental defective is basically incurable, much can be done to alleviate the otherwise unfortunate plight of these individuals and, in certain cases, to transform a ward of the state into a self-supporting and respected citizen. One of our primary deficits at this time is the current lack of adequate training and educational facilities whereby many of these "hopeless cases" may be taught a simple, but remunerative trade, and encouraged to develop a stable and mature concept of self which is sufficient to withstand the stresses of an otherwise impossibly complex world. Although it is certainly true that many of the lower groups are best managed

by permanent institutionalization, a considerable number could be made almost entirely self-supporting if given proper training and support during their earlier years. Unfortunately, our public school system still penalizes the handicapped child, as well as the exceptional student, in that it is geared almost entirely to the level of the average or "normal" individual. Much of the subject matter currently offered is not only completely beyond the feeble-minded child's comprehension, but would prove of little or no value to him even if, by some cybernetic wonder, it could be assimilated. The popular delusion that *all* children can best be educated to the art of rich and productive living via a single educational system is about as logical as insisting that we all wear the same size shoe, regardless of our individual anatomical variations or psychological inclinations. Similarly, the average teacher is poorly equipped and inadequately trained to cope with the specialized problems encountered in the education and supervision of the mentally deficient. The institutions for the defective currently in operation, laudable though their efforts may be, are grossly inadequate to meet current demands; a brief visit to either of our two state colonies at Lynchburg or Petersburg is enough to convince even the most disinterested observer of the inadequacy of our current rehabilitative program. Such lamentable conditions will undoubtedly persist until the medical profession is able to arouse public conscience to the point of legislative action.

Although there has recently been considerable interest in the use of glutamic acid to promote intellectual functioning in feeble-minded children, Zabarenko and Chambers[3] were unable to demonstrate any significant gain in mental functioning following its utilization. Although Schwoebel reported an "increased impetus in thought, motor activities and attention", he also noted that "intelligence remained uninfluenced".[4]

SUMMARY

1. The socio-medical implications and the magnitude of the problem presented by the mentally deficient have been briefly discussed.
2. The need for the increased utilization of the diagnostic facilities of the Mental Hygiene Clinic system by referring physicians and school authorities alike as well as the necessity of expanding currently operant institutional and educational programs have been noted.
3. Salient nosological and diagnostic features have been briefly summarized.
4. It is felt that a more progressive and humanitarian approach to this problem is indicated.

BIBLIOGRAPHY

1. Sadler, W. S.: *Practice of Psychiatry,* C. V. Mosby, 1953.
2. Murphy, G.: *Neuropsychiatry,* **2**:4, 1953.
3. Zabarenko, R. N., and Chambers, G. S.: *Am. J. Psychiat.* **108**:881, 1952.
4. Schwoebel, G.: *Ztschr. F. Kinderpsychiat.* **19**:101, 1952.

New Books.

We list below some of the newer books at the Tompkins-McCaw Library of the Medical College of Virginia, Richmond, which are available to our readers under usual library rules.

Altschule—Bodily physiology in mental and emotional disorders. 1953.

Anderson & Anderson—Communicable disease control. 3d ed., 1953.

Bailey's textbook of histology. 13th ed., 1953.

Bakwin & Bakwin—Clinical management of behavior disorders in children. 1953.

Galloway—Treatment of respiratory emergencies, including bulbar poliomyelitis. 1953.

Gordon & Lisser—Endocrinology in clinical practice. 1953.

Hart—Congenital dysplasia of the hip joint and sequelae in the newborn and early postnatal life. 1952.

Karpf—The psychology and psychotherapy of Otto Rank. 1953.

Kinsey—Sexual behavior in the human female. 1953.

Lichtman—Diseases of the liver, gallbladder and bile ducts. Vols. 1 & 2, 3rd ed., 1953.

Meyer—Essentials of infant feeding for physicians. 1952.

Newton—Geriatric nursing. 1950.

Noyes—Modern clinical psychiatry. 4th ed., 1953.

Progress in neurology and psychiatry. Vol. 3, 1953.

Stroud—Diagnosis and treatment of cardiovascular disease. 4th ed. 1952.

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MEDICO-LEGAL NOTES

Medico-Legal Evaluation of Blood-Alcohol Levels

The following information is presented with the hope that it will be useful when questions arise pertaining to the relationship between blood-alcohol values and the condition referred to as "being under the influence", especially as related to ability to operate motor vehicles safely.

1. *Actions:*

Ethyl alcohol is basically a central nervous system depressant, acting in a manner similar to that of the general anesthetics such as ether and chloroform.

2. *Absorption:*

Alcohol requires no digestion, and absorption occurs apparently by simple diffusion from the stomach and intestines into the blood stream. This diffusion is so rapid that from 80-90% of the ingested quantity may be absorbed in about 30 minutes, although complete absorption requires approximately 2 hours. Of the order of 20% is absorbed from the stomach and the remainder from the small intestine. A delay in gastric emptying time is a most important factor in slowing the rate of absorption. Largely because of this, speed of absorption may vary between individuals and in the same individual at different times. Ordinarily the most important factor in delaying absorption is the presence of food; carbohydrates and proteins being equally or possibly more effective than fats in this respect. The concentration and nature of the alcoholic beverage are also influencing factors; for instance, the alcohol in beer is more slowly absorbed than that in an equal concentration in water.

3. *Fate:*

Approximately 90% of the alcohol absorbed is completely oxidized to CO_2 and water. The initial stage of this metabolism begins in the liver, hence the possible effect of liver disease on the intensity of the alcohol activity. The remaining 10% is eliminated unchanged chiefly by the lungs and kidneys. Normally the body destroys and eliminates alcohol at a rate equivalent to 2/3 oz. of whisky per hour. In terms of changes in the blood-alcohol percentage this corresponds to a decrease of approximately 0.02% per hour.

4. *Individual Tolerance:*

This depends upon congenital or acquired tissue (brain) susceptibility, rate of absorption, rate of elimination, age, and the general medical condition of the subject. Individuals in ill health, mentally or physically, are usually more profoundly affected by alcohol than those in a state of good health.

5. *Usual Methods of Testing:*

Direct determination of the concentration of alcohol in the blood by chemical analysis is the most reliable practical method. Indirectly, blood-alcohol levels may be reasonably well determined by analysis of the expired air for alcohol.

6. *Synergisms:*

Subjects taking depressant drugs such as the barbiturates, morphine and chloral hydrate concomitantly with alcohol will be more markedly affected than otherwise. Such drugs should be used with special care in the presence of alcohol.

7. *Signs and Symptoms:*

Alcohol brings about a release from the usual restraints and inhibitions. As a result there is the appearance, initially at least, of stimulation. Actually, this is a pseudo-type of stimulation. Depending on the amount taken, there is a sense of security, feeling of being a "superman", a nothing-matters-plenty-of-time attitude, hilariousness and boisterousness. Judgment, reflexes, vision, mental efficiency and muscle coordination suffer. There is analgesia, mental confusion, slow and sluggish thinking, decreased efficiency in responding to emergency situations and inability to perform simple tasks with usual speed and accuracy.

8. *Interpretation of Blood-Alcohol Values* (largely from National Safety Council Memo No. 29):

Less than 0.05% = prima facie evidence that the subject *is not* under the influence of alcohol.

0.05%-0.15% = corroborative evidence to be considered with outward physical symptoms. In general, the nearer the level of 0.15% is approached, the more likely the subject is of being under the influence of alcohol.

0.15% and above = prima facie evidence that the subject *is* under the influence of alcohol insofar as the operation of a motor vehicle is concerned.

0.25% and above = the subject is markedly intoxicated.

0.40% and above = comatose levels of alcohol which may lead to death.

9. *Approximation of Alcoholic Beverages to Reach Given Blood-Level:*

A 12 oz. bottle of beer (4%) contains approximately the same alcohol content as 1 oz. of whisky (100 proof). For an average 160 lb. individual* tested within 30-45 minutes after drinking; a *minimum* of:

2 oz. whisky = 0.05% alcohol in blood
4 oz. whisky = 0.10% alcohol in blood
6 oz. whisky = 0.15% alcohol in blood
8 oz. (½ pint) = 0.20% alcohol in blood

*Other things being equal the greater the body weight the larger (in rough proportion) must be the alcohol intake to achieve an equal alcohol value.

Contributed by: Sidney Kaye, B.S., M.Sc., Toxicologist, Office of Chief Medical Examiner, and Harvey B. Haag, M.D., Professor of Pharmacology, Medical College of Virginia.

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President.....MRS. KALFORD W. HOWARD, Portsmouth

Southwestern Auxiliary.

The fall meeting of the Woman's Auxiliary to the Southwestern Virginia Medical Society met at Maple Shade Inn, Pulaski, September 17, with Mrs. James P. King of Radford, presiding. Twenty-seven members were present. Mrs. D. S. Divers welcomed the members to Pulaski.

Increased membership, nurse recruitment and public relations were again stressed in the business session. Each member was asked to list her activities in clubs and organizations.

Delegates appointed to the Auxiliary of the Medical Society of Virginia for the October meeting in Roanoke were: Mrs. Joseph Coates, Galax; Mrs. T. E. Painter, Radford; Mrs. C. F. Manges, Blacksburg; and Mrs. Richard Potter, Marion.

The following officers were elected and installed: president, Mrs. C. C. Hatfield, Saltville; president-elect, Mrs. M. C. Newton, Narrows; vice-president, Mrs. F. C. Bedsaul, Floyd; secretary, Mrs. R. L. Hillman, Emory; corresponding secretary, Mrs. P. W. Cowherd, Saltville; and treasurer, Mrs. James Chitwood, Pulaski.

The members were entertained by the Pulaski ladies, and a banquet followed with the members of the Southwestern Virginia Medical Society.

Resolutions for the Late Mrs. L. Benjamin Sheppard.

With feelings of deepest regret the Woman's Auxiliary to the Richmond Academy of Medicine must record the passing of one of its most distinguished members, our beloved and respected associate, Mrs. L. Benjamin Sheppard, who died on July 8, 1953.

Because we realize the fullest extent the benefits which our Auxiliary and the entire community have derived from the work of this public spirited woman, and because of the warm personal feeling inspired in our hearts by her kindly unselfish life; be it

RESOLVED, That we inscribe upon our records this tribute to her memory, that future generations may know and appreciate her splendid Christian character, her many benevolent deeds, and the respect and esteem in which she was held; and

RESOLVED, That a copy of these resolutions be transmitted to the family of our deceased associate, together with the assurance of our sincerest sympathy. May our Heavenly Father console them in their sorrow and may these words of appreciation and high regard be a solace in the years to come.

(MRS. HAWES) ELLIE C. CAMPBELL

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PUBLIC HEALTH

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Brucellosis.

Brucellosis must be included in differential diagnostic problems. Physicians have gradually become aware that many patients suffering from a disease resembling typhoid, malaria or tuberculosis may actually have Brucella infection. The symptoms of acute brucellosis are more suggestive than those of the chronic form and the diagnosis is more readily made. However, a high index of suspicion of brucellosis on the part of the physician is most helpful in reaching the diagnosis.

The development of two cases of brucellosis at one of the State Farms illustrates both the possible long incubation period and the delay in diagnosis that may occur. Toward the latter part of June it came to the attention of the State Health Department that agglutinations by the sera of these two men were positive in dilutions through 1:3200. Both were young colored males. A visit was made to the Farm in question and it was found that a plan for control of brucellosis in the cattle had been adopted some time ago and that the herd had been tested in June, 1952, at which time two reactors and eight suspects were discovered. The reactors were slaughtered and the suspects were separated. A re-test was made in November of the same year and there were no reactors. Because of the illness of these two men the herd was again tested in June, 1953, though, under Plan A, they would not have been tested until November. Two suspects were found in the beef herd in a titer 1:50, and none in the dairy herd.

Since this fairly well ruled out the cattle as the source of infection, inquiry was made as to the health of the swine. It was learned that there was some illness among the drove at that time which was diagnosed as hog cholera. It was stated that both men had taken part in slaughtering the hogs during the winter months and had been the men who did the gutting. Both men had received cuts on their hands in the process. No history of sickness prior to the onset of the present illness, about three weeks before, could be elicited. Cultures of the blood of these patients yielded organisms that were identified as Br.suis and confirmed the opinion that the infection had been from the hogs.

A few weeks ago the State Laboratory reported a positive agglutination for Br.abortus by the serum from the blood of a patient in a dilution 1:200. Inquiry brought out the fact that this was considered to be a clinical case of brucellosis and that for two months before the doctor had seen him he had been treated for influenza. Two other people on the farm decided to have their tests made, though they were feeling fine, and both were positive in serum dilutions 1-240. A reactor was found in the herd and the cow was disposed of.

The incubation period of brucellosis is usually from 6 to 30 days, commonly 14 days, but occasionally the latent period between the time of entrance of the organisms into the body and the appearance of symptoms may be as long as 4 to 5 months. The onset may be abrupt or it may be insidious. Weakness is a very constant symptom. In over half the cases there is enlargement of the cervical and axillary lymph nodes. The spleen is enlarged in approximately one-third of the cases. Pain in the muscles of the back of the neck is a common complaint. There is loss of appetite, elevation of temperature 100 to 104 degrees, irritability and mental depression. Visual disturbances are not uncommon.

It is highly important to reassure the patient and to encourage him as to his ultimate recovery. Weakness is a prominent symptom and rest is necessary. The use of aureomycin in treatment has given excellent results and it is not necessary to hospitalize the patients. Aureomycin in a dose of 0.5 gms is given orally every six hours for ten to fourteen days and may be repeated if advisable. Many cases respond favorably with only one course of treatment.

Brucellosis is more often found among those handling domestic animals that serve as reservoir, such as cattle, swine and goats, or their carcasses. Less frequently it occurs as the result of taking into the body milk that has come from infected animals. Elimination of the disease will come with its eradication among animals serving as a reservoir and by legislation requiring pasteurization of milk destined for human consumption.

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MONTHLY REPORT OF THE BUREAU OF COMMUNICABLE DISEASE CONTROL

	Sept. 1953	Sept. 1952	Jan.-Sept. 1953	Jan.-Sept. 1952
Brucellosis	10	6	48	33
Diphtheria	7	17	63	73
Hepatitis	199	69	1846	552
Measles	44	45	4605	15435
Meningitis (Meningococcic)	11	6	155	152
Poliomyelitis	141	174	597	516
Rocky Mt. Spotted Fever	6	12	56	74
Scarlet Fever	14	12	658	559
Tularemia	1	8	23	42
Typhoid & Paratyphoid	13	3	62	71
Rabies in Animals	20	25	348	372

BOOK ANNOUNCEMENTS

Fool's Haven. By C. C. CAWLEY. House of Edinboro, Publishers, Boston, Mass. 1953. 210 pages. Cloth. Price $2.75.

Living With A Disability. By HOWARD A. RUSK, M.D., and EUGENE J. TAYLOR. In Collaboration with Muriel Zimmerman, O.T.R. and Julia Judson, M.S. The Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center. The Blakiston Company, Inc., Garden City, New York. 1953. 207 pages. Illustrated. Cloth. Price $3.50.

New and Nonofficial Remedies. Containing Descriptions of the Articles which Stand Accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1953. Issued under the Direction of The Council on Pharmacy and Chemistry. Philadelphia, J. B. Lippincott Company. 1953. xlviii-623 pages. Cloth.

May's Manual of the Diseases of the Eye. For Students and General Practitioners. Twenty-First Edition Revised and Edited by CHARLES A. PERERA, M.D., Associate Clinical Professor, College of Physicians and Surgeons, Columbia University, New York; Attending Ophthalmologist, Presbyterian Hospital, New York. Baltimore, Williams & Wilkins Company. 1953. viii-512 pages. With 378 Illustrations, Including 32 Plates, with 93 Colored Figures. Cloth. Price $6.00.

Once a scientific book reaches 21 editions and has been translated into eight different languages, with several editions in each one of them, very little is left for any reviewer to say about it, because the number of editions speaks for itself. However, when this is the book with which the reviewer established his first contact with Ophthalmology and got interested in this field, then the fact of reviewing it obtains a sentimental value and is like a demonstration of gratitude for the author, who with his book has attracted, without doubt, many physicians all over the world to the field of Ophthalmology.

In this new edition the main purpose of the book, to make it useful for students and general practitioners, has been fully maintained. The first 3 chapters deal with the examination of the eye, well brought up to date.

The next 16 chapters are dealing with the pathological conditions most often encountered in the different ocular structures, with a brief mention of some of the less common affections. A brief anatomical review introduces each new ocular structure. Problems of amblyopia, refraction and ocular motility are dealt with in chapters 20-24. The last two chapters are dedicated to Ocular Therapeutics and Ocular Manifestations of General Diseases. An appendix of Ocular requirements for admission in the Armed Forces constitutes the final part of the book. A very excellent index makes any reference extremely easy.

25 of the old colored plates have been replaced by new ones and we hope that the next edition will bring a replacement also of the few old plates which are still left in this edition.

The treatment with antibiotics, especially with Chloromycetin, the ocular application of Cortisone and ACTH could be emphasized more, at the expense of some of the older therapeutic measures not any more in general use. The chapter on treatment of cataracts lacks a mention of the new operation of introduction of an acrylic lens into the eye, which seems to become more popular among ophthalmologists the world over. But all these are minor defects, due probably to the fact that Ophthalmology, like any other field in Medicine is growing so fast, that it is difficult to introduce every new idea or treatment in a book.

Following all the reviewers of this book, for the past 53 years, we very heartily recommend this book to all, students, general practitioners and ophthalmologists, for whom to read again this old, familiar book, will be very delightful.

W.M.

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EDITORIAL

Our New President—Dr. Archer

THE Medical Society of Virginia is indeed fortunate in having Dr. Vincent W. Archer as its next President.

Dr. Archer was born August 3, 1895, at Berwyn, Illinois. He married Miss Kate Eleazer, a very charming South Carolinian. They have two children, Vincent W. Archer, Jr., and Mrs. W. W. Clegg. The grandchildren are Vincent W. Archer, III, and W. W. Clegg, II.

VINCENT W. ARCHER, M. D.,
President, The Medical Society of Virginia

Dr. Archer attended Guilford and Davidson Colleges and received his B. S. from the University of Virginia in 1920. He was graduated from the Medical Department of the University in 1923, and was a Diplomate of The American Board of Radiology, Founders Group, in 1924. He has contributed much to medical science and has received many honors:

Head of Department of Roentgenology, University of Virginia since 1924

Ex-Councilor and Chairman, Council Southern Medical Association

Ex-Chancellor and Chairman three years, Board of Chancellors, American College of Radiology

Ex-President, Virginia Radiological Society, Albemarle County Medical Society, Piedmont Medical Society

Judge Scientific Exhibits American Medical Association two years, one as Chairman

Co-Founder and Ex-Chairman of Board, Virginia Medical Service Association

Ex-Chairman Executive Council, American Roentgen Ray Society

President-Elect and Ex-Councilor, The Medical Society of Virginia

President, University of Virginia Medical Alumni Association

Delegate, House of Delegates, American Medical Association

Member, American Medical Association Committee on Federal Medical Services

Executive Committee, Virginia Council Health and Medical Care

Honorary Member: British Institute of Radiology; Texas Radiological Society; St. Louis Academy of Medicine; Panama Radiological Society; Detroit Radiological Society

Author: Book "The Osseous System" and about 35 medical papers; Bronze Medical American Medical Association 1930; Certificate of Merit American Medical Association 1930; Silver Medal American Roentgen Ray, 1949; First Award, Southern Medical Association and The Medical Society of Virginia, 1949

Inventor: Lead Glass Fabric for fluoroscopic gowns

Membership in Honorary Societies: Phi Beta Kappa, A.O.A. Sigma Xi, Raven

Dr. Archer is a fine man and an outstanding Radiologist. He has been particularly interested in the welfare of The Medical Society of Virginia for years, and all of us who know him and his work, feel sure he will make an excellent president.

F.M.H.

Alexander Gustavus Brown, Jr., M. D., A. B.

DR. Alexander Gustavus Brown, Jr., who died September 16, 1953, after a brief illness, was born August 31, 1873, in Ashland, Virginia.

He was the son of Alexander Gustavus Brown and Frances Cooksey Brown. His father was secretary of Randolph-Macon College for a long time and likewise treasurer of the Methodist Conference until his death.

Dr. Brown received his preliminary education at the Public Schools in Richmond, Danville and Norfolk, Virginia, and was graduated with the degree of Bachelor of Arts from Randolph-Macon College. From there he entered the University College of Medicine, where he graduated in 1898. He served one year as interne at the Richmond City Hospital, after which he engaged in the practice of medicine in Richmond.

He was married December 11, 1901, to Miss Kate Marion Upshur, by the Reverend Dr. Smith, rector of St. Margaret Church, Washington, D. C.

He was Professor of Practice of Medicine at the University College of Medicine until it merged in 1913 with the Medical College of Virginia, where he was elected Associate Professor of Medicine. He was Editor of the Virginia Medical Monthly for 14 years, after which he resigned. He was also an Honorary Member of the Richmond Academy of Medicine and the Medical Society of Virginia, the Southern Medical Association and the Tri-State Medical Association. He served with the rank of Captain in the Virginia Militia Artillery as a volunteer in 1912 and 1914, and also served on the Draft Board in Richmond in World War I.

He was a member of the National Board of Internal Medicine. He served as President of Stuart Circle Hospital, and was a member of the Staff of Internal Medicine. He belonged to two fraternities, Phi Kappa Sigma and Pi Mu, later absorbed by Phi

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Chi medical fraternity. He was Past Master of the Masonic Dove Lodge 51. He was a Honorary Governor General of the Society of Colonial Wars, and a member of the Society of the Cincinnati in the State of Virginia. He was a former President of the Sons of the Revolution in Virginia. He was also a member of the Commonwealth Club and the Country Club of Virginia. He was a Life member of the Virginia Historical Society and served on the Executive Committee of the Society.

He was a Life member of the Virginia College of Physicians, American Medical Association, The Medical Society of Virginia and the Richmond Academy of Medicine. He was a member of St. James' Episcopal Church, Richmond, Virginia.

One of his intimate friends in discussing his character said, he had one attribute that could be defined by one word, "Solvent". There was nothing of a gamble about him and he took no chances on anything, but always had the means to carry out his desires. This seemed to be true of his practice of medicine, in his religion, and in his social life. This sense of security made him very confident and added to his ability.

Dr. Brown was an outstanding Internist and Consultant for many years, and was greatly beloved by both the members of his profession and his hosts of patients and friends. We feel that in his death we have suffered a great loss and a loving personality long to be remembered by all who knew him.

He is survived by his widow, Kate Upshur Brown, one daughter, Mrs. James Massie, and one son, Dr. Alexander G. Brown, III.

CARRINGTON WILLIAMS, M.D.
SPOTSWOOD ROBINS, M.D.
PAUL W. HOWLE, M.D., *Chairman*

Public Relations Conference

A combination Public Relations and Public Information Conference will be presented by the Public Relations Committee of the Society on November 24 at Richmond's Hotel John Marshall.

The Conference this year is something "special" in that the morning portion will be devoted exclusively to the Woman's Auxiliary. The Committee has long realized that a strong, active Auxiliary is an asset to the Society—especially as a public relations medium.

The afternoon portion of the Conference will be of a public information nature in which the problems of the medically indigent and the chronically ill will be considered. Participating will be representatives from the League of Virginia Counties, Virginia Hospital Association, State Health Department, State Welfare Department, Virginia Council on Health and Medical Care, and many other interested groups.

It is hoped that all component societies will be well represented.

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SOCIETIES

Southwestern Virginia Medical Society.

The annual Fall meeting of the Society was held at Maple Shade Inn in Pulaski, September 17, with the president, Dr. Frank Farmer of Roanoke presiding. Following an interesting scientific program, there was a short business session at which delegates and alternates were named for the 1954 meeting of The Medical Society of Virginia and twelve new members were admitted to the society. Officers for the coming year were elected as follows: President, Dr. R. C. Potter, Marion; vice-president, Dr. C. C. Hatfield, Saltville; and Dr. J. L. Chitwood of Pulaski was re-elected secretary-treasurer. Dr. R. H. Jones of Roanoke was elected to the Executive Council; and Dr. J. P. King, Radford, and Dr. F. C. Bedsaul, Floyd, to the Judiciary Committee to fill vacancies caused by retirement of other members.

At the meeting following dinner, Dr. Susan Dees of Duke University, spoke on "Allergy in Pediatrics", and Dr. Walter B. Martin of Norfolk, president-elect of the American Medical Association, gave an address. This was especially appropriate as Pulaski was Dr. Martin's boyhood home.

The Warwick-Newport News Medical Society.

At the meeting of the Society on September 8, there was a short business meeting, and a discussion of "Ladies Night" Dance in December, and plans for the course in Public Relations for office personnel to be given by The Medical Society of Virginia.

The scientific program consisted of presentation of a 4½ year old colored male with precocious puberty. The differential diagnosis was discussed by Dr. Monte Binder and Dr. A. A. Creecy, followed by an open discussion from the floor.

Dr. O. Watts Booth is president and Dr. W. Ward Anderson, Jr., secretary-treasurer.

Lynchburg Academy of Medicine.

The September meeting of the Academy was a dinner meeting on September 14th. Dr. Lewis G. Welt, Associate Professor of Medicine at Duke University spoke on, "The Significance of Electrolyte Abnormalties In Congestive Heart Failure".

The Academy voted to conduct a series of Medical Forum programs for presentation at public gatherings with the aid of the Lynchburg newspapers.

Applications of seven doctors for membership in the Academy were read and their applications filed for the year's waiting period required.

FRANK N. BUCK, *Secretary*

Fourth District Medical Society.

Dr. Edith Miller, Petersburg, presided at the meeting of this society in Chase City, September 15, held at the Mecklenburg Country Club. An interesting scientific program was presented at the 2:30 session, followed by a short business meeting. A cocktail party and dinner followed.

Richmond Academy of Medicine.

Dr. C. L. Outland presided at the meetings of the Academy on September 22 and October 13. At the first, papers were presented by Dr. William A. Johns on Localized Pulmonary Hypertrophic Emphysema, and by Dr. E. L. Kendig, Jr., on Tuberculosis in the Very Young.

On October 13, The Purpose and Functions of the Virginia Council on Health and Medical Care were explained by Edgar J. Fisher, Director, and Dr. William H. Harris, Jr., spoke on Mercuhydrin Sensitivity.

Fairfax County Medical Society.

The meeting on October 6 was held at the home of Dr. J. D. Zylman in Arlington, the new officers presiding at the meeting. Final plans for the dinner dance were announced. Dr. Claude Cooper of Annandale is president, and Dr. Robert Hunt of Falls Church secretary.

Virginia Peninsula Academy of Medicine.

At the meeting on September 16, at James River Country Club, there was a social hour starting at 6 o'clock with dinner being served afterwards. At the meeting which followed, the speaker of the evening was Dr. Louis H. Clerf, professor of Laryngology and Broncho-Esophagology at Jefferson Medical College, Philadelphia. Guests at the meeting also included Dr. G. Slaughter Fitz-Hugh of the University of Virginia and Dr. Porter P. Vinson of the Medical College of Virginia.

Dr. Chester D. Bradley is president of the Society and Dr. W. T. Watkins, Jr., secretary-treasurer. Both are of Newport News.

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NEWS

News from the State Health Department.

Dr. Charles M. Wylie, former Director of the Botetourt-Buena Vista-Lexington-Rockbridge Health District, has been appointed Acting Director of the Fauquier-Prince William-Rappahannock Health District, effective October 1. The position vacated by Doctor Wylie has been filled by Dr. James H. Fagan, of Hancock, New York.

Dr. L. W. Frame, formerly of Huntington, West Virginia, was appointed Director of the Giles-Montgomery-Radford Health District, effective August 16, 1953.

Dr. W. A. Werner, Director of the Lee-Scott Health District, is on a nine month educational leave. Dr. Werner is attending the University of Michigan School of Public Health at Ann Arbor, Michigan.

Dr. Ware Honored.

Dr. H. Hudnall Ware, Jr., head of the department of obstetrics at the Medical College of Virginia, Richmond, was honored on September the 18th by a group of his former students on the twenty-fifth anniversary of his joining the College staff. A dinner was tendered Dr. and Mrs. Ware by a number of the former students and their wives at which time a scholarship and student loan fund was announced in his honor.

Dr. Arnold F. Strauss,

Pathologist of De Paul Hospital, Norfolk, was honored during his recent visit to Peru by being made a corresponding member of the Peruvian Society for Pathology. While in Lima, Dr. Strauss was invited to a conference at the Andean Institute for Biology and spoke before the Peruvian Society for Pathology about his research on red cell destruction by fragmentation and the role of the coronary circulation in this process. He also worked on the same problem with Dr. Jorge Campos of the Peruvian National Cancer Institute.

The two physicians will continue this work by an exchange of specimens and correspondence together with Dr. Ruprecht Witzmann, Pathologist in La Oroya, Peru, the highest town in the world where autopsies are performed. High altitude leads to more rapid formation and destruction of the blood and provides favorable conditions for such studies.

Dr. Strauss has resumed his duties as director of the Pathology department and Laboratories of De Paul Hospital, Norfolk, a post he has held since 1936.

Transfers in Veterans Administration Staffs.

Dr. Jack B. Porterfield, formerly with the Virginia State Health Department, now with the Veterans Administration, was transferred the middle of September from McGuire VA where he was on temporary duty, to the Kecoughtan VA Hospital, where he will be chief of the Physical Medicine Rehabilitation Service. At the same time, Dr. Lewellyn H. King transferred from Kecoughtan to become a member of the McGuire Physical Medicine Rehabilitation Service in Richmond.

The Conference on Gastroenterology

Will be held in the Medical School Auditorium of the University of Virginia on Friday, November 20. There will be Round Table discussions with Question and Answer Panels on The Ulcer Problem, Gall Bladder Disease, Benign and Malignant Growths of the G.I. Tract, and the Problem Presented by Diarrhea. Guest speakers from out of the State will be Dr. Franz Inglefinger of the Boston University Medical School, and Dr. Cranston W. Holman of Cornell Medical College.

These postgraduate conferences are offered by the University of Virginia for the practicing physicians of the State. No tuition fees are charged and all Virginia physicians are welcome.

The Association of Military Surgeons of the U.S.

Is to hold its next annual meeting at the Statler Hotel in Washington, D. C., November 9, 10 and 11. Rear Adm. Winchell McK. Craig (MC), URNR of Rochester, Minn., is this year's president. An outstanding scientific and professional program is scheduled, including exhibits and social events. All members of the medical, dental, nursing, pharmacy and allied science professions are invited to attend.

New Tuberculosis Sanatorium for Negroes.

Ground was broken recently for this unit in Richmond on the north side of Marshall Street and east of Thirteenth, near the Medical College of Virginia. This is being built as a joint project of the College and the State Department of Health.

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Armed Forces Institute of Pathology.

The cornerstone was laid of the Armed Forces Institute of Pathology at the Walter Reed Army Medical Center in Washington, D.C., October the 20th. Appropriate exercises were held with music by the Marine Corps Band. The address was given by Honorable Melvin A. Casberg, M.D., Assistant Secretary of Defense.

Board of Visitors, Medical College of Virginia.

Three new appointees to the Board of Visitors of the College are Drs. J. D. Hagood, Clover, Miss Nora Spencer Hamner, Richmond, and R. F. Burke Steele of Petersburg. They replace three who are ineligible for re-appointment.

The Virginia Society of Ophthalmology and Otolaryngology

Will hold its Fall Clinical session in Richmond, November 30 and December 1, 2 and 3. The first two days will be devoted to Otolaryngology and the second two days to Ophthalmology. This meeting is open to all interested specialists in the United States. For information, address Dr. P. N. Pastore, Box 25, 1200 East Broad Street, Richmond 19, Virginia.

Duke Medical Symposium.

Duke University School of Medicine at Durham, N. C., invites physicians of North and South Carolina, Virginia and neighboring counties in Tennessee to attend the Medical Symposium to be held on the Duke campus, December 1 and 2. The general subject to be discussed will be "Psychiatry for the Non-Psychiatrist". The speakers will be doctors familiar with the problems of non-psychiatric physicians in the community.

Crippled Children's Hospital.

Attention is called to Donation Day, Tuesday, November 24, for Crippled Children's Hospital, Richmond. This hospital does not participate in the income from the Richmond Area Community Chest or from the sale of seals and is dependent largely upon free-will offerings. Each year they treat and care for over 400 children absolutely free of charge, who otherwise would have remained handicapped for life. Make your check payable to Crippled Children's Hospital, Inc., 2924 Brook Road, Richmond, Va.

Dr. George Kirby Brooks, Jr.,

Announces the opening of his office for the practice of psychiatry in the Lee Medical Building, Richmond.

Clinical Session, American Medical Association.

The seventh annual Clinical Session of the American Medical Association will be in St. Louis, December 1-4. More than 3,500 physicians are expected and a program has been designed to give the general practitioner an opportunity to see and hear the latest developments in medicine. More than 150 papers by outstanding physicians will cover such topics as internal medicine, surgery, pediatrics, obstetrics and gynecology, tuberculosis and other diseases of the chest, cardio-vascular diseases, arthritis, dermatology, gastrointestinal diseases and neuropsychiatry.

One outstanding feature will be an exhibit symposium on the prevention of traffic accidents. This will include discussion of the responsibilities of the physician in telling his patient when not to drive and what other precautions the physician should take in such special situations as the testing of the drinking driver and the care of the injured after an accident. Physicians and representatives from the National Safety Council and several police departments will participate in the symposium.

All scientific activities will be held in the Kiel Auditorium, where there are ample facilities for the lecture program. The Scientific Exhibit of about 80 displays will be correlated as far as possible with the clinical presentations. The Technical Exposition will consist of about 160 exhibits covering all types of office and medical practice needs.

The House of Delegates will meet in the Jefferson Hotel. Every physician should make an effort to attend one or more of these sessions.

Wanted

1. A physician for contract practice in coal camp;
2. A physician for private hospital, preferably internal medicine. Address Dr. W. C. Elliott, Lebanon General Hospital, Lebanon, Va. (*Adv.*)

Wanted

Physician for the Staff of the DeJarnette State Sanatorium, Staunton, Virginia. This is a psychiatric hospital of approximately 180-bed capacity. Starting salary $8,400.00 to $8,784.00. Apply to the Superintendent. (*Adv.*)

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OBITUARIES

Dr. J. Edward Payne

Died at Arlington Hospital on July 27, 1953, of an intrapercardial hemorrhage. He was born at Lumberport, West Virginia, June 28, 1898.

Dr. Payne was graduated from West Virginia University in 1917, where he was a member of the Reserve Officers' Training Corps. In 1921 he graduated from the University of Maryland with the degree of Doctor of Medicine.

He was engaged in general practice in Clarksburg, West Virginia, for eight years and then moved to Arlington, Virginia, where he was in practice until his death. In 1951 he gave up general practice to enter Harvard Medical School and later the Mayo Clinic to study cardiology. He returned to Arlington to specialize in this field, and organized the Arlington-Fairfax Heart Association. At the time of his death he was a Director of the Virginia Heart Association. During his medical practice in Arlington he served as President of the Arlington County Medical Society, Chief-of-Staff of the Arlington Hospital and cardiac consultant to the local draft board.

Dr. Payne was a member of the Clarendon Methodist Church, Sons of the American Revolution, Masonic Lodge, Kiwanis Club and various other civic organizations. He was a Fellow of the American Medical Association, the medical societies of Virginia, District of Columbia and Arlington County, and a member of the staffs of Georgetown, George Washington, Garfield, Alexandria and Doctors' Hospitals.

Dr. Payne's warm personality and keen interest in civic and medical affairs made him not only an outstanding member of his profession, but a beloved member of the community.

R. C. HOOD, M.D.
H. CLARK BATES, JR., M.D.
JOHN H. JUDSON, M.D.
LLOYD B. BURK, JR., M.D.
ROBERT L. NORMENT

Dr. Oscar Lee Ransey,

Perhaps the oldest of the physicians of Pittsylvania County, living at Gretna, died in the hospital October 1, after a long illness. He was eighty years of age and a graduate of the former University College of Medicine, Richmond, in 1905. The greater part of his life was spent at Gretna where he had taken a prominent part in the activities of the county. He held a 50-year Masonic pin as a member of Anderson Lodge, A.M. & F.M. and had been a member of The Medical Society of Virginia since shortly after his graduation in medicine. His wife and several children survive him.

Dr. George Madison Maxwell, Sr.,

Prominent eye, ear, nose and throat specialist of Roanoke for forty-six years, died September the 24th at the Veterans Hospital in that city. He had been hospitalized since last October as the result of a fall in which he received a spinal injury. He was seventy-seven years of age and had graduated at the North Carolina Medical College in 1901 and in 1906 at the Jefferson Medical College in Philadelphia. He was a member of several special and other medical societies and had been a member of The Medical Society of Virginia since shortly after locating in Roanoke in 1907. His wife and several children survive him.

Dr. A. Henry Dunn,

Recently of Petersburg, Va. died August 4, in Los Angeles, California, to which place he had recently moved. Death was due to a coronary occlusion. He was born in Philadelphia in 1884 and graduated from the Medico-Chirurgical College there, in 1906. His wife survives him.

Dr. William L. Early

Of Wolftown, died September 25 at the age of seventy-six. He graduated in medicine at the Medical College of Virginia in 1898 and had served his community for fifty-four years as a general practitioner. He was also a farmer and at the time of his death was a member of the Madison County Democratic Committee and had taken an active part in the activities of his section. He is survived by his wife and two children.

Dr. Robert J. Wilkinson,

Prominent surgeon of Huntington, West Virginia, died September 14 in the C. & O. Hospital there, where he had been surgeon-in-charge since 1915. He was sixty-five years of age and a graduate of the Medical College of Virginia in 1912. He was last year's president of the Southern Medical Association and was also a former president of the West Virginia State Medical Association. He was always interested in the Alumni Association of his alma mater and was recently president of that Association.